

GCSE MATHEMATICS

Aligned to Pearson Edexcel GCSE Mathematics (1MA1)

FOUNDATION TIER

NUMBER

PRACTICE BOOK

Modules 01–08 | 360 original questions

Formula guides, full worked answers and marking guidance

FREE WEBSITE EDITION

Student name: _____

Target grade: _____ Start date: _____ Completion: _____

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MODULE 01-08 / N1-N16

Unit 1 Contents and Study Plan

8 MODULES | 360 ORIGINAL QUESTIONS

Name: _____ Date: _____ Score: ____ / ____

Complete Core Skills, Exam Practice, Grade 4-5 Challenge and same-topic retrieval in every module. Formula and method guides, full worked answers and marking guidance are collected at the back.

MODULE	TOPIC	SPECIFICATION	SCORE
01	Integers, Place Value and Calculation	N1, N2, N3	__ / __
02	Factors, Multiples, Primes and Systematic Listing	N4, N5	__ / __
03	Powers, Roots and Integer Indices	N3, N6, N7	__ / __
04	Fractions and Mixed Numbers	N2, N3, N8, N11, N12	__ / __
05	Decimals, Percentages and Financial Number	N2, N10, N12; links R9	__ / __
06	Standard Form and Large or Small Numbers	N2, N7, N9	__ / __
07	Rounding, Estimation and Limits of Accuracy	N14, N15, N16	__ / __
08	Units, Money and Multi-step Number Problems	N2, N3, N12, N13, N14	__ / __

Assessment information can change. For the current paper format, calculator rules, timing, marks and qualification details, consult the official Pearson Edexcel GCSE Mathematics (1MA1) specification on the Pearson Qualifications website.

MODULE 01-08 / N1-N16

Specification Coverage Map

INDEPENDENTLY AUTHORED PRACTICE

Name: _____ Date: _____ Score: ____ / ____

This independently authored Foundation Tier practice book is organised around the skills represented by Pearson Edexcel GCSE Mathematics (1MA1) content references N1-N16. The reference identifies specification alignment only; the questions, data, diagrams and worked solutions in this book are independently created.

Pearson Edexcel is referenced only to identify the qualification for which this resource is intended. This publication does not reproduce Pearson Edexcel question papers, mark schemes, examiner reports, sample assessment materials or specification text.

For the official and most recent specification, assessment structure and Pearson Edexcel materials, use the Pearson Qualifications website directly. Do not rely on this independent resource as the authoritative source of qualification rules.

Practice emphasis: Ordering, arithmetic, factors, powers, fractions, decimals, percentages, units, estimation and accuracy. The exercises are designed as independent GCSE Mathematics practice rather than replicas of Pearson Edexcel examination questions.

N1-N5	Ordering, arithmetic, inverse operations, factors and listing
N6-N9	Powers, roots, exact calculation and standard form
N10-N12	Fractions, decimals, percentages and fraction operators
N13-N16	Units, estimation, rounding and limits of accuracy

MODULE 01 / N1, N2, N3

Integers, Place Value and Calculation

CORE SKILLS | PART A

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

1. Work out $-8 + (3)$. [1 mark]

2. Work out $14 + (-19)$. [1 mark]

3. Work out $-17 + (-9)$. [1 mark]

4. Work out $125 + (-36)$. [1 mark]

5. Work out $-25 + (47)$. [1 mark]

MODULE 01 / N1, N2, N3

Integers, Place Value and Calculation

CORE SKILLS | PART B

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

6. Work out $-38 + (-24)$. [1 mark]

7. Work out $7 - (-12)$. [1 mark]

8. Work out $-11 - (8)$. [1 mark]

9. Work out $-15 - (-9)$. [1 mark]

10. Work out $24 - (-31)$. [1 mark]

MODULE 01 / N1, N2, N3

Integers, Place Value and Calculation

CORE SKILLS | PART C

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

11. Work out $0 - (-17)$. [1 mark]

12. Work out -7×6 . [1 mark]

13. Work out -9×-8 . [1 mark]

14. Work out 12×-11 . [1 mark]

15. Work out -13×5 . [1 mark]

MODULE 01 / N1, N2, N3

Integers, Place Value and Calculation

EXAM PRACTICE | PART A

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

16. Work out $-84 \div 7$. [1 mark]

17. Work out $96 \div -12$. [1 mark]

18. Work out $-72 \div -9$. [1 mark]

19. Work out $144 \div 12$. [1 mark]

20. Write these numbers in ascending order: -6, 2, -9, 0, 5. [2 marks]

MODULE 01 / N1, N2, N3

Integers, Place Value and Calculation

EXAM PRACTICE | PART B

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

21. Write these numbers in ascending order: -12, -4, 7, -15, 1. [2 marks]

22. Write these numbers in ascending order: -0.8, 0.08, -0.08, 0.8. [2 marks]

23. Write these numbers in ascending order: 0.4, 0.04, 0.404, 0.44. [2 marks]

24. State the value of the digit 7 in 57 308. [1 mark]

25. State the value of the digit 4 in 0.406. [1 mark]

MODULE 01 / N1, N2, N3

Integers, Place Value and Calculation

EXAM PRACTICE | PART C

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

26. State the value of the digit 2 in 8 205 714. [1 mark]

27. State the value of the digit 8 in 19.083. [1 mark]

28. Work out $18 - 3 \times 3 + 2^2$. [2 marks]

29. Work out $18 - 3 \times 5 + 2^2$. [2 marks]

30. Work out $18 - 3 \times 7 + 2^2$. [2 marks]

MODULE 01 / N1, N2, N3

Integers, Place Value and Calculation

GRADE 4-5 CHALLENGE | PART A

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

31. Work out $18 - 3 \times 9 + 2^2$. [2 marks]

32. Work out $(14 - 2)^2 \div 4 + 3$. Give a decimal if necessary. [2 marks]

33. Work out $(14 - 3)^2 \div 4 + 3$. Give a decimal if necessary. [2 marks]

34. Work out $(14 - 4)^2 \div 4 + 3$. Give a decimal if necessary. [2 marks]

35. The temperature is 4°C . It falls by 11°C , then rises by 6°C . Find the final temperature. [3 marks]

MODULE 01 / N1, N2, N3

Integers, Place Value and Calculation

GRADE 4-5 CHALLENGE | PART B

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

36. The temperature is -3°C . It falls by 8°C , then rises by 12°C . Find the final temperature. [3 marks]

37. The temperature is 7°C . It falls by 16°C , then rises by 4°C . Find the final temperature. [3 marks]

38. The temperature is -6°C . It falls by 9°C , then rises by 15°C . Find the final temperature. [3 marks]

39. A bank balance is £35. A payment of £68 is made and then £20 is deposited. Find the new balance. [3 marks]

40. A bank balance is £12. A payment of £47 is made and then £16 is deposited. Find the new balance. [3 marks]

MODULE 01 / N1, N2, N3

Integers, Place Value and Calculation

SAME-TOPIC RETRIEVAL

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

41. A bank balance is £54. A payment of £83 is made and then £11 is deposited. Find the new balance. [3 marks]

42. A bank balance is £18. A payment of £65 is made and then £29 is deposited. Find the new balance. [3 marks]

43. A lift begins on floor -3, rises 12 floors and then descends 8 floors. Which floor does it reach? [3 marks]

44. A lift begins on floor -3, rises 14 floors and then descends 8 floors. Which floor does it reach? [3 marks]

45. A lift begins on floor -3, rises 18 floors and then descends 8 floors. Which floor does it reach? [3 marks]

MODULE 02 / N4, N5

Factors, Multiples, Primes and Systematic Listing

CORE SKILLS | PART A

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

1. List all the positive factors of 18. [2 marks]

2. List all the positive factors of 24. [2 marks]

3. List all the positive factors of 30. [2 marks]

4. List all the positive factors of 36. [2 marks]

5. List all the positive factors of 42. [2 marks]

MODULE 02 / N4, N5

Factors, Multiples, Primes and Systematic Listing

CORE SKILLS | PART B

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

6. List all the positive factors of 48. [2 marks]

7. List all the positive factors of 56. [2 marks]

8. List all the positive factors of 60. [2 marks]

9. Decide whether 29 is prime. Give a reason. [2 marks]

10. Decide whether 39 is prime. Give a reason. [2 marks]

MODULE 02 / N4, N5

Factors, Multiples, Primes and Systematic Listing

CORE SKILLS | PART C

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

11. Decide whether 51 is prime. Give a reason. [2 marks]

12. Decide whether 53 is prime. Give a reason. [2 marks]

13. Decide whether 67 is prime. Give a reason. [2 marks]

14. Decide whether 77 is prime. Give a reason. [2 marks]

15. Write 36 as a product of prime factors. [2 marks]

MODULE 02 / N4, N5

Factors, Multiples, Primes and Systematic Listing

EXAM PRACTICE | PART A

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

16. Write 48 as a product of prime factors. [2 marks]

17. Write 60 as a product of prime factors. [2 marks]

18. Write 72 as a product of prime factors. [2 marks]

19. Write 84 as a product of prime factors. [2 marks]

20. Write 90 as a product of prime factors. [2 marks]

MODULE 02 / N4, N5

Factors, Multiples, Primes and Systematic Listing

EXAM PRACTICE | PART B

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

21. Write 108 as a product of prime factors. [2 marks]

22. Write 126 as a product of prime factors. [2 marks]

23. Find the highest common factor of 18 and 24. [2 marks]

24. Find the highest common factor of 28 and 42. [2 marks]

25. Find the highest common factor of 36 and 54. [2 marks]

MODULE 02 / N4, N5

Factors, Multiples, Primes and Systematic Listing

EXAM PRACTICE | PART C

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

26. Find the highest common factor of 45 and 75. [2 marks]

27. Find the highest common factor of 48 and 80. [2 marks]

28. Find the highest common factor of 63 and 84. [2 marks]

29. Find the lowest common multiple of 6 and 8. [2 marks]

30. Find the lowest common multiple of 12 and 18. [2 marks]

MODULE 02 / N4, N5

Factors, Multiples, Primes and Systematic Listing

GRADE 4-5 CHALLENGE | PART A

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

31. Find the lowest common multiple of 15 and 20. [2 marks]

32. Find the lowest common multiple of 14 and 21. [2 marks]

33. Find the lowest common multiple of 16 and 24. [2 marks]

34. Find the lowest common multiple of 18 and 30. [2 marks]

35. Two buses leave together. One runs every 12 minutes and the other every 18 minutes. After how many minutes will they next leave together? [3 marks]

MODULE 02 / N4, N5

Factors, Multiples, Primes and Systematic Listing

GRADE 4-5 CHALLENGE | PART B

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

36. Two buses leave together. One runs every 15 minutes and the other every 25 minutes. After how many minutes will they next leave together? [3 marks]

37. Two buses leave together. One runs every 18 minutes and the other every 24 minutes. After how many minutes will they next leave together? [3 marks]

38. Two buses leave together. One runs every 20 minutes and the other every 30 minutes. After how many minutes will they next leave together? [3 marks]

39. A teacher has 24 pencils and 36 pens and makes identical packs without leftovers. What is the greatest possible number of packs? [3 marks]

40. A teacher has 30 pencils and 45 pens and makes identical packs without leftovers. What is the greatest possible number of packs? [3 marks]

MODULE 02 / N4, N5

Factors, Multiples, Primes and Systematic Listing

SAME-TOPIC RETRIEVAL

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

41. A teacher has 42 pencils and 56 pens and makes identical packs without leftovers. What is the greatest possible number of packs? [3 marks]

42. A teacher has 48 pencils and 72 pens and makes identical packs without leftovers. What is the greatest possible number of packs? [3 marks]

43. A café offers 3 sandwich choices and 4 drink choices. How many different sandwich-and-drink combinations are possible? [2 marks]

44. A café offers 4 sandwich choices and 5 drink choices. How many different sandwich-and-drink combinations are possible? [2 marks]

45. A café offers 2 sandwich choices and 6 drink choices. How many different sandwich-and-drink combinations are possible? [2 marks]

MODULE 03 / N3, N6, N7

Powers, Roots and Integer Indices

CORE SKILLS | PART A

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

1. Calculate 2^5 . [1 mark]

2. Calculate 3^4 . [1 mark]

3. Calculate 5^3 . [1 mark]

4. Calculate 4^4 . [1 mark]

5. Calculate 10^3 . [1 mark]

MODULE 03 / N3, N6, N7

Powers, Roots and Integer Indices

CORE SKILLS | PART B

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

6. Calculate 6^2 . [1 mark]

7. Calculate 7^2 . [1 mark]

8. Calculate 2^8 . [1 mark]

9. Find $\sqrt{49}$. [1 mark]

10. Find $\sqrt{81}$. [1 mark]

MODULE 03 / N3, N6, N7

Powers, Roots and Integer Indices

CORE SKILLS | PART C

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

11. Find $\sqrt{121}$. [1 mark]

12. Find $\sqrt{144}$. [1 mark]

13. Find $\sqrt{169}$. [1 mark]

14. Find $\sqrt{196}$. [1 mark]

15. Find $\sqrt{225}$. [1 mark]

MODULE 03 / N3, N6, N7

Powers, Roots and Integer Indices

EXAM PRACTICE | PART A

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

16. Find $\sqrt{289}$. [1 mark]

17. Find the cube root of 8. [1 mark]

18. Find the cube root of 27. [1 mark]

19. Find the cube root of 64. [1 mark]

20. Find the cube root of 125. [1 mark]

MODULE 03 / N3, N6, N7

Powers, Roots and Integer Indices

EXAM PRACTICE | PART B

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

21. Find the cube root of 216. [1 mark]

22. Find the cube root of 343. [1 mark]

23. Write $2^3 \times 2^4$ as a single power. [2 marks]

24. Write $3^2 \times 3^5$ as a single power. [2 marks]

25. Write $5^4 \times 5^2$ as a single power. [2 marks]

MODULE 03 / N3, N6, N7

Powers, Roots and Integer Indices

EXAM PRACTICE | PART C

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

26. Write $7^2 \times 7^3$ as a single power. [2 marks]

27. Write $10^3 \times 10^4$ as a single power. [2 marks]

28. Write $2^8 \div 2^3$ as a single power. [2 marks]

29. Write $3^7 \div 3^2$ as a single power. [2 marks]

30. Write $5^6 \div 5^4$ as a single power. [2 marks]

MODULE 03 / N3, N6, N7

Powers, Roots and Integer Indices

GRADE 4-5 CHALLENGE | PART A

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

31. Write $10^9 \div 10^5$ as a single power. [2 marks]

32. Write $7^5 \div 7^3$ as a single power. [2 marks]

33. Write $(2^3)^2$ as a single power. [2 marks]

34. Write $(3^2)^3$ as a single power. [2 marks]

35. Write $(5^2)^2$ as a single power. [2 marks]

MODULE 03 / N3, N6, N7

Powers, Roots and Integer Indices

GRADE 4-5 CHALLENGE | PART B

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

36. Write $(10^2)^4$ as a single power. [2 marks]

37. Write 2^{-2} as a fraction. [2 marks]

38. Write 5^{-1} as a fraction. [2 marks]

39. Write 10^{-2} as a fraction. [2 marks]

40. Write 2^{-3} as a fraction. [2 marks]

MODULE 03 / N3, N6, N7

Powers, Roots and Integer Indices

SAME-TOPIC RETRIEVAL

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

41. Calculate $\sqrt{36} + \sqrt{49}$. [2 marks]

42. Calculate $\sqrt{64} + \sqrt{25}$. [2 marks]

43. Calculate $\sqrt{81} + \sqrt{16}$. [2 marks]

44. Calculate $\sqrt{100} + \sqrt{121}$. [2 marks]

45. Calculate $\sqrt{144} + \sqrt{9}$. [2 marks]

MODULE 04 / N2, N3, N8, N11, N12

Fractions and Mixed Numbers

CORE SKILLS | PART A

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

1. Simplify $12/18$. [1 mark]

2. Simplify $15/25$. [1 mark]

3. Simplify $18/30$. [1 mark]

4. Simplify $21/49$. [1 mark]

5. Simplify $24/36$. [1 mark]

MODULE 04 / N2, N3, N8, N11, N12

Fractions and Mixed Numbers

CORE SKILLS | PART B

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

6. Simplify $28/42$. [1 mark]

7. Write the improper fraction $9/4$ as a mixed number. [1 mark]

8. Write the improper fraction $11/3$ as a mixed number. [1 mark]

9. Write the improper fraction $17/5$ as a mixed number. [1 mark]

10. Write the improper fraction $23/6$ as a mixed number. [1 mark]

MODULE 04 / N2, N3, N8, N11, N12

Fractions and Mixed Numbers

CORE SKILLS | PART C

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

11. Write the improper fraction $29/8$ as a mixed number. [1 mark]

12. Write $2 \frac{1}{3}$ as an improper fraction. [1 mark]

13. Write $3 \frac{2}{5}$ as an improper fraction. [1 mark]

14. Write $4 \frac{3}{7}$ as an improper fraction. [1 mark]

15. Write $1 \frac{5}{8}$ as an improper fraction. [1 mark]

MODULE 04 / N2, N3, N8, N11, N12

Fractions and Mixed Numbers

EXAM PRACTICE | PART A

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

16. Write $5\frac{1}{4}$ as an improper fraction. [1 mark]

17. Work out $\frac{1}{3} + \frac{1}{4}$. Give your answer in simplest form. [2 marks]

18. Work out $\frac{2}{5} + \frac{1}{3}$. Give your answer in simplest form. [2 marks]

19. Work out $\frac{3}{8} + \frac{1}{6}$. Give your answer in simplest form. [2 marks]

20. Work out $\frac{5}{6} + \frac{1}{4}$. Give your answer in simplest form. [2 marks]

MODULE 04 / N2, N3, N8, N11, N12

Fractions and Mixed Numbers

EXAM PRACTICE | PART B

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

21. Work out $\frac{3}{7} + \frac{2}{7}$. Give your answer in simplest form. [2 marks]

22. Work out $\frac{7}{10} + \frac{2}{5}$. Give your answer in simplest form. [2 marks]

23. Work out $\frac{3}{4} - \frac{1}{6}$. Give your answer in simplest form. [2 marks]

24. Work out $\frac{5}{8} - \frac{1}{4}$. Give your answer in simplest form. [2 marks]

25. Work out $\frac{7}{9} - \frac{2}{3}$. Give your answer in simplest form. [2 marks]

MODULE 04 / N2, N3, N8, N11, N12

Fractions and Mixed Numbers

EXAM PRACTICE | PART C

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

26. Work out $11/12 - 1/3$. Give your answer in simplest form. [2 marks]

27. Work out $4/5 - 3/10$. Give your answer in simplest form. [2 marks]

28. Work out $2/3 \times 3/5$. [2 marks]

29. Work out $4/7 \times 7/8$. [2 marks]

30. Work out $5/6 \times 3/10$. [2 marks]

MODULE 04 / N2, N3, N8, N11, N12

Fractions and Mixed Numbers

GRADE 4-5 CHALLENGE | PART A

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

31. Work out $\frac{3}{4} \times \frac{2}{9}$. [2 marks]

32. Work out $\frac{7}{12} \times \frac{6}{7}$. [2 marks]

33. Work out $\frac{2}{3} \div \frac{4}{5}$. [2 marks]

34. Work out $\frac{3}{7} \div \frac{2}{7}$. [2 marks]

35. Work out $\frac{5}{6} \div \frac{1}{3}$. [2 marks]

MODULE 04 / N2, N3, N8, N11, N12

Fractions and Mixed Numbers

GRADE 4-5 CHALLENGE | PART B

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

36. Work out $4/9 \div 2/3$. [2 marks]

37. Work out $7/8 \div 7/12$. [2 marks]

38. Find $3/5$ of 45. [2 marks]

39. Find $7/8$ of 64. [2 marks]

40. Find $5/6$ of 90. [2 marks]

MODULE 04 / N2, N3, N8, N11, N12

Fractions and Mixed Numbers

SAME-TOPIC RETRIEVAL

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

41. Find $\frac{3}{4}$ of 116. [2 marks]

42. Find $\frac{2}{7}$ of 84. [2 marks]

43. A charity spends $\frac{2}{5}$ of its £35 budget. How much money remains? [3 marks]

44. A charity spends $\frac{2}{8}$ of its £64 budget. How much money remains? [3 marks]

45. A charity spends $\frac{2}{6}$ of its £48 budget. How much money remains? [3 marks]

MODULE 05 / N2, N10, N12; links R9

Decimals, Percentages and Financial Number

CORE SKILLS | PART A

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

1. Write 0.4 as a fraction in simplest form. [2 marks]

2. Write 0.35 as a fraction in simplest form. [2 marks]

3. Write 0.125 as a fraction in simplest form. [2 marks]

4. Write 0.625 as a fraction in simplest form. [2 marks]

5. Write 0.08 as a fraction in simplest form. [2 marks]

MODULE 05 / N2, N10, N12; links R9

Decimals, Percentages and Financial Number

CORE SKILLS | PART B

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

6. Write 0.875 as a fraction in simplest form. [2 marks]

7. Write $\frac{1}{4}$ as a decimal. [1 mark]

8. Write $\frac{3}{5}$ as a decimal. [1 mark]

9. Write $\frac{7}{8}$ as a decimal. [1 mark]

10. Write $\frac{9}{20}$ as a decimal. [1 mark]

MODULE 05 / N2, N10, N12; links R9

Decimals, Percentages and Financial Number

CORE SKILLS | PART C

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

11. Write $3/25$ as a decimal. [1 mark]

12. Write $11/50$ as a decimal. [1 mark]

13. Write 0.07 as a percentage. [1 mark]

14. Write 0.35 as a percentage. [1 mark]

15. Write 0.625 as a percentage. [1 mark]

MODULE 05 / N2, N10, N12; links R9

Decimals, Percentages and Financial Number

EXAM PRACTICE | PART A

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

16. Write 1.2 as a percentage. [1 mark]

17. Write 0.045 as a percentage. [1 mark]

18. Write 0.9 as a percentage. [1 mark]

19. Find 15% of 80. [2 marks]

20. Find 35% of 240. [2 marks]

MODULE 05 / N2, N10, N12; links R9

Decimals, Percentages and Financial Number

EXAM PRACTICE | PART B

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

21. Find 12% of 150. [2 marks]

22. Find 7% of 300. [2 marks]

23. Find 62.5% of 96. [2 marks]

24. Find 125% of 48. [2 marks]

25. An item costs £80. Its price increases by 15%. Find the new price. [3 marks]

MODULE 05 / N2, N10, N12; links R9

Decimals, Percentages and Financial Number

EXAM PRACTICE | PART C

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

26. An item costs £240. Its price increases by 12%. Find the new price. [3 marks]

27. An item costs £65. Its price increases by 20%. Find the new price. [3 marks]

28. An item costs £125. Its price increases by 8%. Find the new price. [3 marks]

29. An item costs £360. Its price increases by 5%. Find the new price. [3 marks]

30. An item costs £90. Its price decreases by 20%. Find the new price. [3 marks]

MODULE 05 / N2, N10, N12; links R9

Decimals, Percentages and Financial Number

GRADE 4-5 CHALLENGE | PART A

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

31. An item costs £150. Its price decreases by 12%. Find the new price. [3 marks]

32. An item costs £48. Its price decreases by 25%. Find the new price. [3 marks]

33. An item costs £320. Its price decreases by 15%. Find the new price. [3 marks]

34. An item costs £75. Its price decreases by 8%. Find the new price. [3 marks]

35. Express 18 as a percentage of 60. [2 marks]

MODULE 05 / N2, N10, N12; links R9

Decimals, Percentages and Financial Number

GRADE 4-5 CHALLENGE | PART B

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

36. Express 27 as a percentage of 90. [2 marks]

37. Express 42 as a percentage of 120. [2 marks]

38. Express 35 as a percentage of 140. [2 marks]

39. Express 63 as a percentage of 84. [2 marks]

40. After a 20% discount, a jacket costs £64.00. Find its original price. [3 marks]

MODULE 05 / N2, N10, N12; links R9

Decimals, Percentages and Financial Number

SAME-TOPIC RETRIEVAL

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

41. After a 25% discount, a jacket costs £90.00. Find its original price. [3 marks]

42. After a 10% discount, a jacket costs £144.00. Find its original price. [3 marks]

43. After a 15% discount, a jacket costs £204.00. Find its original price. [3 marks]

44. After a 30% discount, a jacket costs £42.00. Find its original price. [3 marks]

45. A shop reduces a £240 device by 25% and then adds 10% delivery insurance to the reduced price. Find the final cost. [4 marks]

MODULE 06 / N2, N7, N9

Standard Form and Large or Small Numbers

CORE SKILLS | PART A

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

1. Write 4,500 in standard form. [1 mark]

2. Write 72,000 in standard form. [1 mark]

3. Write 306,000 in standard form. [1 mark]

4. Write 8,900,000 in standard form. [1 mark]

5. Write 510 in standard form. [1 mark]

MODULE 06 / N2, N7, N9

Standard Form and Large or Small Numbers

CORE SKILLS | PART B

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

6. Write 98,000,000 in standard form. [1 mark]

7. Write 120,000 in standard form. [1 mark]

8. Write 6,040,000 in standard form. [1 mark]

9. Write 0.0045 in standard form. [2 marks]

10. Write 0.00072 in standard form. [2 marks]

MODULE 06 / N2, N7, N9

Standard Form and Large or Small Numbers

CORE SKILLS | PART C

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

11. Write 0.0000081 in standard form. [2 marks]

12. Write 0.035 in standard form. [2 marks]

13. Write 0.000306 in standard form. [2 marks]

14. Write 0.00000091 in standard form. [2 marks]

15. Write 0.00704 in standard form. [2 marks]

MODULE 06 / N2, N7, N9

Standard Form and Large or Small Numbers

EXAM PRACTICE | PART A

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

16. Write 3.4×10^5 as an ordinary number. [1 mark]

17. Write 8.09×10^3 as an ordinary number. [1 mark]

18. Write 6.2×10^6 as an ordinary number. [1 mark]

19. Write 1.07×10^4 as an ordinary number. [1 mark]

20. Write 9.5×10^2 as an ordinary number. [1 mark]

MODULE 06 / N2, N7, N9

Standard Form and Large or Small Numbers

EXAM PRACTICE | PART B

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

21. Write 4.08×10^{-3} as an ordinary number. [1 mark]

22. Write 7.2×10^{-5} as an ordinary number. [1 mark]

23. Write 1.3×10^{-2} as an ordinary number. [1 mark]

24. Calculate $(2 \times 10^3) \times (3 \times 10^4)$. Give your answer in standard form. [3 marks]

25. Calculate $(4 \times 10^5) \times (2 \times 10^2)$. Give your answer in standard form. [3 marks]

MODULE 06 / N2, N7, N9

Standard Form and Large or Small Numbers

EXAM PRACTICE | PART C

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

26. Calculate $(3 \times 10^4) \times (5 \times 10^{-2})$. Give your answer in standard form. [3 marks]

27. Calculate $(6 \times 10^{-3}) \times (4 \times 10^5)$. Give your answer in standard form. [3 marks]

28. Calculate $(8 \times 10^2) \times (3 \times 10^{-5})$. Give your answer in standard form. [3 marks]

29. Calculate $(1.5 \times 10^4) \times (4 \times 10^3)$. Give your answer in standard form. [3 marks]

30. Calculate $(8 \times 10^6) \div (2 \times 10^2)$. Give your answer in standard form. [3 marks]

MODULE 06 / N2, N7, N9

Standard Form and Large or Small Numbers

GRADE 4-5 CHALLENGE | PART A

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

31. Calculate $(9 \times 10^5) \div (3 \times 10^2)$. Give your answer in standard form. [3 marks]

32. Calculate $(6 \times 10^3) \div (2 \times 10^{-2})$. Give your answer in standard form. [3 marks]

33. Calculate $(4 \times 10^{-3}) \div (2 \times 10^{-5})$. Give your answer in standard form. [3 marks]

34. Calculate $(1.2 \times 10^8) \div (4 \times 10^3)$. Give your answer in standard form. [3 marks]

35. Calculate $(3.4 \times 10^5) + (2.1 \times 10^5)$. Give your answer in standard form. [3 marks]

MODULE 06 / N2, N7, N9

Standard Form and Large or Small Numbers

GRADE 4-5 CHALLENGE | PART B

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

36. Calculate $(6.7 \times 10^3) + (1.4 \times 10^3)$. Give your answer in standard form. [3 marks]

37. Calculate $(8.2 \times 10^4) + (4.5 \times 10^4)$. Give your answer in standard form. [3 marks]

38. Calculate $(5.9 \times 10^{-3}) + (2.8 \times 10^{-3})$. Give your answer in standard form. [3 marks]

39. Calculate $(9.1 \times 10^{-5}) + (3.2 \times 10^{-5})$. Give your answer in standard form. [3 marks]

40. A laboratory has 2.4×10^6 cells and places 3×10^4 cells in each sample. How many samples can be made? Give your answer in standard form. [4 marks]

MODULE 06 / N2, N7, N9

Standard Form and Large or Small Numbers

SAME-TOPIC RETRIEVAL

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

41. A laboratory has 6.2×10^5 cells and places 5×10^2 cells in each sample. How many samples can be made? Give your answer in standard form. [4 marks]

42. A laboratory has 4.8×10^4 cells and places 2×10^3 cells in each sample. How many samples can be made? Give your answer in standard form. [4 marks]

43. A laboratory has 7.5×10^7 cells and places 3×10^5 cells in each sample. How many samples can be made? Give your answer in standard form. [4 marks]

44. A laboratory has 9.6×10^6 cells and places 4×10^3 cells in each sample. How many samples can be made? Give your answer in standard form. [4 marks]

45. A laboratory has 3.6×10^8 cells and places 6×10^5 cells in each sample. How many samples can be made? Give your answer in standard form. [4 marks]

MODULE 07 / N14, N15, N16

Rounding, Estimation and Limits of Accuracy

CORE SKILLS | PART A

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

1. Round 4.786 to 2 decimal places. [1 mark]

2. Round 19.045 to 1 decimal place. [1 mark]

3. Round 0.08765 to 3 decimal places. [1 mark]

4. Round 38.995 to 2 decimal places. [1 mark]

5. Round 7.4506 to 2 decimal places. [1 mark]

MODULE 07 / N14, N15, N16

Rounding, Estimation and Limits of Accuracy

CORE SKILLS | PART B

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

6. Round 126.748 to 1 decimal place. [1 mark]

7. Round 0.9994 to 2 decimal places. [1 mark]

8. Round 4876 to 2 significant figures. [1 mark]

9. Round 0.07846 to 2 significant figures. [1 mark]

10. Round 52390 to 3 significant figures. [1 mark]

MODULE 07 / N14, N15, N16

Rounding, Estimation and Limits of Accuracy

CORE SKILLS | PART C

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

11. Round 0.009956 to 2 significant figures. [1 mark]

12. Round 684.51 to 3 significant figures. [1 mark]

13. Round 9951 to 2 significant figures. [1 mark]

14. Round 0.0007089 to 2 significant figures. [1 mark]

15. Round 359.49 to 2 significant figures. [1 mark]

MODULE 07 / N14, N15, N16

Rounding, Estimation and Limits of Accuracy

EXAM PRACTICE | PART A

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

16. Estimate $(49 \times 19) \div 9$ by rounding each number to 1 significant figure. [2 marks]

17. Estimate $(198 \times 31) \div 6$ by rounding each number to 1 significant figure. [2 marks]

18. Estimate $(81 \times 39) \div 11$ by rounding each number to 1 significant figure. [2 marks]

19. Estimate $(602 \times 18) \div 29$ by rounding each number to 1 significant figure. [2 marks]

20. Estimate $(29 \times 49) \div 5$ by rounding each number to 1 significant figure. [2 marks]

MODULE 07 / N14, N15, N16

Rounding, Estimation and Limits of Accuracy

EXAM PRACTICE | PART B

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

21. A measurement is 7 cm, correct to the nearest cm. Write its error interval. [2 marks]

22. A measurement is 13 kg, correct to the nearest kg. Write its error interval. [2 marks]

23. A measurement is 24 m, correct to the nearest m. Write its error interval. [2 marks]

24. A measurement is 48 mm, correct to the nearest mm. Write its error interval. [2 marks]

25. A measurement is 105 g, correct to the nearest g. Write its error interval. [2 marks]

MODULE 07 / N14, N15, N16

Rounding, Estimation and Limits of Accuracy

EXAM PRACTICE | PART C

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

26. A length is 12.4 cm correct to 1 decimal place. Write the error interval. [2 marks]

27. A length is 7.8 cm correct to 1 decimal place. Write the error interval. [2 marks]

28. A length is 19.6 cm correct to 1 decimal place. Write the error interval. [2 marks]

29. A length is 35.2 cm correct to 1 decimal place. Write the error interval. [2 marks]

30. A length is 0.9 cm correct to 1 decimal place. Write the error interval. [2 marks]

MODULE 07 / N14, N15, N16

Rounding, Estimation and Limits of Accuracy

GRADE 4-5 CHALLENGE | PART A

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

31. A mass is 120 g correct to the nearest 10 g. State its lower and upper bounds. [2 marks]

32. A mass is 350 g correct to the nearest 10 g. State its lower and upper bounds. [2 marks]

33. A mass is 480 g correct to the nearest 10 g. State its lower and upper bounds. [2 marks]

34. A mass is 910 g correct to the nearest 10 g. State its lower and upper bounds. [2 marks]

35. A mass is 240 g correct to the nearest 10 g. State its lower and upper bounds. [2 marks]

MODULE 07 / N14, N15, N16

Rounding, Estimation and Limits of Accuracy

GRADE 4-5 CHALLENGE | PART B

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

36. Two lengths are 8 cm and 5 cm, each correct to the nearest cm. Find the lower and upper bounds of their sum. [3 marks]

37. Two lengths are 12 cm and 7 cm, each correct to the nearest cm. Find the lower and upper bounds of their sum. [3 marks]

38. Two lengths are 15 cm and 9 cm, each correct to the nearest cm. Find the lower and upper bounds of their sum. [3 marks]

39. Two lengths are 20 cm and 6 cm, each correct to the nearest cm. Find the lower and upper bounds of their sum. [3 marks]

40. Two lengths are 18 cm and 11 cm, each correct to the nearest cm. Find the lower and upper bounds of their sum. [3 marks]

MODULE 07 / N14, N15, N16

Rounding, Estimation and Limits of Accuracy

SAME-TOPIC RETRIEVAL

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

41. Two lengths are 8 cm and 5 cm, each correct to the nearest cm. Find the error interval for their difference D. [3 marks]

42. Two lengths are 12 cm and 7 cm, each correct to the nearest cm. Find the error interval for their difference D. [3 marks]

43. Two lengths are 15 cm and 9 cm, each correct to the nearest cm. Find the error interval for their difference D. [3 marks]

44. Two lengths are 20 cm and 6 cm, each correct to the nearest cm. Find the error interval for their difference D. [3 marks]

45. Two lengths are 18 cm and 11 cm, each correct to the nearest cm. Find the error interval for their difference D. [3 marks]

MODULE 08 / N2, N3, N12, N13, N14

Units, Money and Multi-step Number Problems

CORE SKILLS | PART A

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

1. Convert 2.4 km to metres. [1 mark]

2. Convert 0.75 km to metres. [1 mark]

3. Convert 3.08 km to metres. [1 mark]

4. Convert 1.25 km to metres. [1 mark]

5. Convert 0.065 km to metres. [1 mark]

MODULE 08 / N2, N3, N12, N13, N14

Units, Money and Multi-step Number Problems

CORE SKILLS | PART B

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

6. Convert 350 g to kilograms. [1 mark]

7. Convert 825 g to kilograms. [1 mark]

8. Convert 45 g to kilograms. [1 mark]

9. Convert 1260 g to kilograms. [1 mark]

10. Convert 2500 g to kilograms. [1 mark]

MODULE 08 / N2, N3, N12, N13, N14

Units, Money and Multi-step Number Problems

CORE SKILLS | PART C

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

11. Convert 1.8 litres to millilitres. [1 mark]

12. Convert 0.45 litres to millilitres. [1 mark]

13. Convert 2.75 litres to millilitres. [1 mark]

14. Convert 0.09 litres to millilitres. [1 mark]

15. Convert 3.125 litres to millilitres. [1 mark]

MODULE 08 / N2, N3, N12, N13, N14

Units, Money and Multi-step Number Problems

EXAM PRACTICE | PART A

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

16. Write 95 minutes in hours and minutes. [2 marks]

17. Write 135 minutes in hours and minutes. [2 marks]

18. Write 185 minutes in hours and minutes. [2 marks]

19. Write 245 minutes in hours and minutes. [2 marks]

20. Write 310 minutes in hours and minutes. [2 marks]

MODULE 08 / N2, N3, N12, N13, N14

Units, Money and Multi-step Number Problems

EXAM PRACTICE | PART B

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

21. A customer buys 3 notebooks costing £2.40 each and pays with £10. Find the change. [2 marks]

22. A customer buys 4 notebooks costing £1.85 each and pays with £10. Find the change. [2 marks]

23. A customer buys 5 notebooks costing £3.20 each and pays with £20. Find the change. [2 marks]

24. A customer buys 6 notebooks costing £2.75 each and pays with £20. Find the change. [2 marks]

25. A customer buys 7 notebooks costing £1.35 each and pays with £10. Find the change. [2 marks]

MODULE 08 / N2, N3, N12, N13, N14

Units, Money and Multi-step Number Problems

EXAM PRACTICE | PART C

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

26. Pack A has 4 items for £3.20. Pack B has 6 items for £4.50. Which pack is better value? [3 marks]

27. Pack A has 3 items for £2.70. Pack B has 5 items for £4.00. Which pack is better value? [3 marks]

28. Pack A has 6 items for £5.10. Pack B has 8 items for £6.40. Which pack is better value? [3 marks]

29. Pack A has 5 items for £4.25. Pack B has 7 items for £5.60. Which pack is better value? [3 marks]

30. Pack A has 8 items for £6.00. Pack B has 10 items for £7.80. Which pack is better value? [3 marks]

MODULE 08 / N2, N3, N12, N13, N14

Units, Money and Multi-step Number Problems

GRADE 4-5 CHALLENGE | PART A

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

31. A bakery makes 60 rolls and sells 18. The rest are packed in bags of 7. How many full bags can be made, and how many rolls remain? [3 marks]

32. A bakery makes 84 rolls and sells 28. The rest are packed in bags of 8. How many full bags can be made, and how many rolls remain? [3 marks]

33. A bakery makes 96 rolls and sells 24. The rest are packed in bags of 9. How many full bags can be made, and how many rolls remain? [3 marks]

34. A bakery makes 72 rolls and sells 18. The rest are packed in bags of 6. How many full bags can be made, and how many rolls remain? [3 marks]

35. A bakery makes 120 rolls and sells 40. The rest are packed in bags of 10. How many full bags can be made, and how many rolls remain? [3 marks]

MODULE 08 / N2, N3, N12, N13, N14

Units, Money and Multi-step Number Problems

GRADE 4-5 CHALLENGE | PART B

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

36. 3 adults pay £12.50 each and 2 children pay £7.00 each. Find the total cost. [3 marks]

37. 2 adults pay £15.00 each and 4 children pay £8.50 each. Find the total cost. [3 marks]

38. 4 adults pay £11.00 each and 3 children pay £6.50 each. Find the total cost. [3 marks]

39. 5 adults pay £9.50 each and 2 children pay £5.00 each. Find the total cost. [3 marks]

40. 3 adults pay £14.00 each and 5 children pay £7.50 each. Find the total cost. [3 marks]

MODULE 08 / N2, N3, N12, N13, N14

Units, Money and Multi-step Number Problems

SAME-TOPIC RETRIEVAL

Name: _____ Date: _____ Score: ____ / ____

Show clear working. Non-calculator methods are recommended unless a calculator is explicitly appropriate.

41. A trip costs £240. There is a 15% discount, followed by a £8 booking fee. Find the final cost. [4 marks]

42. A trip costs £360. There is a 20% discount, followed by a £12 booking fee. Find the final cost. [4 marks]

43. A trip costs £480. There is a 25% discount, followed by a £15 booking fee. Find the final cost. [4 marks]

44. A trip costs £150. There is a 10% discount, followed by a £6 booking fee. Find the final cost. [4 marks]

45. A trip costs £320. There is a 12.5% discount, followed by a £9 booking fee. Find the final cost. [4 marks]

MODULE 01-02 / N1-N16

Formula and Method Guide

LEARN | PRACTISE | CHECK

MODULE 01 | Integers, Place Value and Calculation | N1, N2, N3

- Order numbers from the smallest to the largest; negatives further left are smaller.
- BIDMAS: brackets, indices, division/multiplication, addition/subtraction.
- Same signs multiply or divide to positive; different signs give negative.
- Subtracting a negative is equivalent to adding a positive.

WORKED CHECK

Write these numbers in ascending order: 0.4, 0.04, 0.404, 0.44.

Ascending means least to greatest: 0.04, 0.4, 0.404, 0.44.

MODULE 02 | Factors, Multiples, Primes and Systematic Listing | N4, N5

- Prime numbers have exactly two distinct positive factors.
- HCF is used for the greatest identical grouping; LCM is used for recurring events.
- Prime-factor decomposition divides successively by prime numbers.
- For independent selections, number of combinations = number of first choices $\times$ number of second choices.

WORKED CHECK

Find the highest common factor of 18 and 24.

The greatest shared factor is $\text{HCF}(18, 24) = 6$.

MODULE 03-04 / N1-N16

Formula and Method Guide

LEARN | PRACTISE | CHECK

MODULE 03 | Powers, Roots and Integer Indices | N3, N6, N7

- $a^m \times a^n = a^{(m+n)}$; $a^m \div a^n = a^{(m-n)}$.
- $(a^m)^n = a^{(mn)}$; $a^0 = 1$ for non-zero a .
- $a^{(-n)} = 1/a^n$.
- A square root reverses squaring; a cube root reverses cubing.

WORKED CHECK**Write $2^3 \times 2^4$ as a single power.**When multiplying equal bases, add powers: $3+4=7$.**MODULE 04 | Fractions and Mixed Numbers | N2, N3, N8, N11, N12**

- Simplify by dividing numerator and denominator by their highest common factor.
- Add/subtract using a common denominator; multiply numerators and denominators.
- To divide fractions, multiply by the reciprocal.
- Fraction of amount = amount $\div$ denominator $\times$ numerator.

WORKED CHECK**Work out $3/4 - 1/6$. Give your answer in simplest form.**Use a common denominator, then subtract: $7/12$.

MODULE 05-06 / N1-N16

Formula and Method Guide

LEARN | PRACTISE | CHECK

MODULE 05 | Decimals, Percentages and Financial Number | N2, N10, N12; links R9

- Decimal to percentage: multiply by 100; percentage to decimal: divide by 100.
- Percentage of amount = $(\text{percentage} \div 100) \times \text{amount}$.
- Increase multiplier = $1 + p/100$; decrease multiplier = $1 - p/100$.
- Reverse percentages: $\text{original} = \text{final} \div \text{percentage multiplier}$.

WORKED CHECK**Find 62.5% of 96.**

$$62.5/100 \times 96 = 60.$$

MODULE 06 | Standard Form and Large or Small Numbers | N2, N7, N9

- Standard form is $A \times 10^n$, where $1 \leq A < 10$ and n is an integer.
- Positive powers represent large numbers; negative powers represent numbers between 0 and 1.
- Multiply standard-form values: multiply coefficients and add powers.
- Divide standard-form values: divide coefficients and subtract powers; always normalise the answer.

WORKED CHECK**Write 1.3×10^{-2} as an ordinary number.**

Move the decimal point 2 places left: 0.013.

MODULE 07-08 / N1-N16

Formula and Method Guide

LEARN | PRACTISE | CHECK

MODULE 07 | Rounding, Estimation and Limits of Accuracy | N14, N15, N16

- Decimal places begin immediately after the decimal point; significant figures begin at the first non-zero digit.
- For an estimate, round each value to 1 significant figure before calculating.
- Lower bound = stated value – half the rounding unit.
- Upper bound = stated value + half the rounding unit; write lower $\leq$ actual $<$ upper.

WORKED CHECK

A measurement is 24 m, correct to the nearest m. Write its error interval.

Half the rounding unit is 0.5: $23.5 \leq x < 24.5$ m.

MODULE 08 | Units, Money and Multi-step Number Problems | N2, N3, N12, N13, N14

- 1 km = 1000 m; 1 kg = 1000 g; 1 litre = 1000 ml.
- 1 hour = 60 minutes. Record both quotient and remainder when converting time.
- Unit price = total cost $\div$ quantity; compare prices in matching units.
- For a multi-step problem, write every operation, keep units, and check the answer is reasonable.

WORKED CHECK

A customer buys 5 notebooks costing £3.20 each and pays with £20. Find the change.

Total = $5 \times £3.20 = £16.00$; change = £4.00.

MODULE 01 / N1, N2, N3

Integers, Place Value and Calculation

WORKED ANSWERS | QUESTIONS 1-15

Marking guidance: B1 = correct answer; M1 = valid method; A1 = accurate final result. Equivalent simplified answers are accepted.

- | | | |
|-----------|--|-----------|
| 01 | Answer: -5
Add directed numbers: $-8 + (3) = -5$. | 1m |
| 02 | Answer: -5
Add directed numbers: $14 + (-19) = -5$. | 1m |
| 03 | Answer: -26
Add directed numbers: $-17 + (-9) = -26$. | 1m |
| 04 | Answer: 89
Add directed numbers: $125 + (-36) = 89$. | 1m |
| 05 | Answer: 22
Add directed numbers: $-25 + (47) = 22$. | 1m |
| 06 | Answer: -62
Add directed numbers: $-38 + (-24) = -62$. | 1m |
| 07 | Answer: 19
Subtracting a negative changes to addition where appropriate: 19. | 1m |
| 08 | Answer: -19
Subtracting a negative changes to addition where appropriate: -19. | 1m |
| 09 | Answer: -6
Subtracting a negative changes to addition where appropriate: -6. | 1m |
| 10 | Answer: 55
Subtracting a negative changes to addition where appropriate: 55. | 1m |
| 11 | Answer: 17
Subtracting a negative changes to addition where appropriate: 17. | 1m |
| 12 | Answer: -42
Apply the sign rule: -42. | 1m |
| 13 | Answer: 72
Apply the sign rule: 72. | 1m |
| 14 | Answer: -132
Apply the sign rule: -132. | 1m |
| 15 | Answer: -65
Apply the sign rule: -65. | 1m |

Award method marks where the correct operation or set-up is shown. Check units, rounding, simplest form and standard-form conventions.

MODULE 01 / N1, N2, N3

Integers, Place Value and Calculation

WORKED ANSWERS | QUESTIONS 16-30

Marking guidance: B1 = correct answer; M1 = valid method; A1 = accurate final result. Equivalent simplified answers are accepted.

16 Answer: -12 1m

Divide magnitudes and use the sign rule: -12.

17 Answer: -8 1m

Divide magnitudes and use the sign rule: -8.

18 Answer: 8 1m

Divide magnitudes and use the sign rule: 8.

19 Answer: 12 1m

Divide magnitudes and use the sign rule: 12.

20 Answer: -9, -6, 0, 2, 5 2m

Ascending means least to greatest: -9, -6, 0, 2, 5.

21 Answer: -15, -12, -4, 1, 7 2m

Ascending means least to greatest: -15, -12, -4, 1, 7.

22 Answer: -0.8, -0.08, 0.08, 0.8 2m

Ascending means least to greatest: -0.8, -0.08, 0.08, 0.8.

23 Answer: 0.04, 0.4, 0.404, 0.44 2m

Ascending means least to greatest: 0.04, 0.4, 0.404, 0.44.

24 Answer: 7 000 1m

Read its place-value column: 7 000.

25 Answer: 0.4 1m

Read its place-value column: 0.4.

26 Answer: 200 000 1m

Read its place-value column: 200 000.

27 Answer: 0.08 1m

Read its place-value column: 0.08.

28 Answer: 13 2m

Powers first, then multiplication: $18 - 9 + 4 = 13$.

29 Answer: 7 2m

Powers first, then multiplication: $18 - 15 + 4 = 7$.

30 Answer: 1 2m

Powers first, then multiplication: $18 - 21 + 4 = 1$.

Award method marks where the correct operation or set-up is shown. Check units, rounding, simplest form and standard-form conventions.

MODULE 01 / N1, N2, N3

Integers, Place Value and Calculation

WORKED ANSWERS | QUESTIONS 31-45

Marking guidance: B1 = correct answer; M1 = valid method; A1 = accurate final result. Equivalent simplified answers are accepted.

31 Answer: -5 2m

Powers first, then multiplication: $18 - 27 + 4 = -5$.

32 Answer: 39 2m

Brackets and square first: $144/4 + 3 = 39$.

33 Answer: 33.25 2m

Brackets and square first: $121/4 + 3 = 33.25$.

34 Answer: 28 2m

Brackets and square first: $100/4 + 3 = 28$.

35 Answer: -1°C 3m

$4 - 11 + 6 = -1^{\circ}\text{C}$.

36 Answer: 1°C 3m

$-3 - 8 + 12 = 1^{\circ}\text{C}$.

37 Answer: -5°C 3m

$7 - 16 + 4 = -5^{\circ}\text{C}$.

38 Answer: 0°C 3m

$-6 - 9 + 15 = 0^{\circ}\text{C}$.

39 Answer: £-13 3m

$35 - 68 + 20 = -13$.

40 Answer: £-19 3m

$12 - 47 + 16 = -19$.

41 Answer: £-18 3m

$54 - 83 + 11 = -18$.

42 Answer: £-18 3m

$18 - 65 + 29 = -18$.

43 Answer: 1 3m

$-3 + 12 - 8 = 1$.

44 Answer: 3 3m

$-3 + 14 - 8 = 3$.

45 Answer: 7 3m

$-3 + 18 - 8 = 7$.

Award method marks where the correct operation or set-up is shown. Check units, rounding, simplest form and standard-form conventions.

MODULE 02 / N4, N5

Factors, Multiples, Primes and Systematic Listing

WORKED ANSWERS | QUESTIONS 1-15

Marking guidance: B1 = correct answer; M1 = valid method; A1 = accurate final result. Equivalent simplified answers are accepted.

- | | | |
|-----------|--|-----------|
| 01 | Answer: 1, 2, 3, 6, 9, 18
Test factor pairs: 1, 2, 3, 6, 9, 18. | 2m |
| 02 | Answer: 1, 2, 3, 4, 6, 8, 12, 24
Test factor pairs: 1, 2, 3, 4, 6, 8, 12, 24. | 2m |
| 03 | Answer: 1, 2, 3, 5, 6, 10, 15, 30
Test factor pairs: 1, 2, 3, 5, 6, 10, 15, 30. | 2m |
| 04 | Answer: 1, 2, 3, 4, 6, 9, 12, 18, 36
Test factor pairs: 1, 2, 3, 4, 6, 9, 12, 18, 36. | 2m |
| 05 | Answer: 1, 2, 3, 6, 7, 14, 21, 42
Test factor pairs: 1, 2, 3, 6, 7, 14, 21, 42. | 2m |
| 06 | Answer: 1, 2, 3, 4, 6, 8, 12, 16, 24, 48
Test factor pairs: 1, 2, 3, 4, 6, 8, 12, 16, 24, 48. | 2m |
| 07 | Answer: 1, 2, 4, 7, 8, 14, 28, 56
Test factor pairs: 1, 2, 4, 7, 8, 14, 28, 56. | 2m |
| 08 | Answer: 1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30, 60
Test factor pairs: 1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30, 60. | 2m |
| 09 | Answer: Prime
29 has exactly two factors, 1 and itself. | 2m |
| 10 | Answer: Not prime
39 has the additional factor 3. | 2m |
| 11 | Answer: Not prime
51 has the additional factor 3. | 2m |
| 12 | Answer: Prime
53 has exactly two factors, 1 and itself. | 2m |
| 13 | Answer: Prime
67 has exactly two factors, 1 and itself. | 2m |
| 14 | Answer: Not prime
77 has the additional factor 7. | 2m |
| 15 | Answer: $2 \times 2 \times 3 \times 3$
Divide repeatedly by primes: $36 = 2 \times 2 \times 3 \times 3$. | 2m |

Award method marks where the correct operation or set-up is shown. Check units, rounding, simplest form and standard-form conventions.

MODULE 02 / N4, N5

Factors, Multiples, Primes and Systematic Listing

WORKED ANSWERS | QUESTIONS 16-30

Marking guidance: B1 = correct answer; M1 = valid method; A1 = accurate final result. Equivalent simplified answers are accepted.

16 Answer: $2 \times 2 \times 2 \times 2 \times 3$ **2m**

Divide repeatedly by primes: $48 = 2 \times 2 \times 2 \times 2 \times 3$.

17 Answer: $2 \times 2 \times 3 \times 5$ **2m**

Divide repeatedly by primes: $60 = 2 \times 2 \times 3 \times 5$.

18 Answer: $2 \times 2 \times 2 \times 3 \times 3$ **2m**

Divide repeatedly by primes: $72 = 2 \times 2 \times 2 \times 3 \times 3$.

19 Answer: $2 \times 2 \times 3 \times 7$ **2m**

Divide repeatedly by primes: $84 = 2 \times 2 \times 3 \times 7$.

20 Answer: $2 \times 3 \times 3 \times 5$ **2m**

Divide repeatedly by primes: $90 = 2 \times 3 \times 3 \times 5$.

21 Answer: $2 \times 2 \times 3 \times 3 \times 3$ **2m**

Divide repeatedly by primes: $108 = 2 \times 2 \times 3 \times 3 \times 3$.

22 Answer: $2 \times 3 \times 3 \times 7$ **2m**

Divide repeatedly by primes: $126 = 2 \times 3 \times 3 \times 7$.

23 Answer: 6 **2m**

The greatest shared factor is $\text{HCF}(18, 24) = 6$.

24 Answer: 14 **2m**

The greatest shared factor is $\text{HCF}(28, 42) = 14$.

25 Answer: 18 **2m**

The greatest shared factor is $\text{HCF}(36, 54) = 18$.

26 Answer: 15 **2m**

The greatest shared factor is $\text{HCF}(45, 75) = 15$.

27 Answer: 16 **2m**

The greatest shared factor is $\text{HCF}(48, 80) = 16$.

28 Answer: 21 **2m**

The greatest shared factor is $\text{HCF}(63, 84) = 21$.

29 Answer: 24 **2m**

$\text{LCM}(6, 8) = 24$.

30 Answer: 36 **2m**

$\text{LCM}(12, 18) = 36$.

Award method marks where the correct operation or set-up is shown. Check units, rounding, simplest form and standard-form conventions.

MODULE 02 / N4, N5

Factors, Multiples, Primes and Systematic Listing

WORKED ANSWERS | QUESTIONS 31-45

Marking guidance: B1 = correct answer; M1 = valid method; A1 = accurate final result. Equivalent simplified answers are accepted.

31 Answer: 60 2m
 $\text{LCM}(15, 20) = 60.$

32 Answer: 42 2m
 $\text{LCM}(14, 21) = 42.$

33 Answer: 48 2m
 $\text{LCM}(16, 24) = 48.$

34 Answer: 90 2m
 $\text{LCM}(18, 30) = 90.$

35 Answer: 36 minutes 3m
 Use the LCM: $\text{LCM}(12, 18) = 36$ minutes.

36 Answer: 75 minutes 3m
 Use the LCM: $\text{LCM}(15, 25) = 75$ minutes.

37 Answer: 72 minutes 3m
 Use the LCM: $\text{LCM}(18, 24) = 72$ minutes.

38 Answer: 60 minutes 3m
 Use the LCM: $\text{LCM}(20, 30) = 60$ minutes.

39 Answer: 12 3m
 Use the HCF: $\text{HCF}(24, 36) = 12$ packs.

40 Answer: 15 3m
 Use the HCF: $\text{HCF}(30, 45) = 15$ packs.

41 Answer: 14 3m
 Use the HCF: $\text{HCF}(42, 56) = 14$ packs.

42 Answer: 24 3m
 Use the HCF: $\text{HCF}(48, 72) = 24$ packs.

43 Answer: 12 2m
 Systematic listing or multiplication: $3 \times 4 = 12.$

44 Answer: 20 2m
 Systematic listing or multiplication: $4 \times 5 = 20.$

45 Answer: 12 2m
 Systematic listing or multiplication: $2 \times 6 = 12.$

Award method marks where the correct operation or set-up is shown. Check units, rounding, simplest form and standard-form conventions.

MODULE 03 / N3, N6, N7

Powers, Roots and Integer Indices

WORKED ANSWERS | QUESTIONS 1-15

Marking guidance: B1 = correct answer; M1 = valid method; A1 = accurate final result. Equivalent simplified answers are accepted.

- | | | |
|-----------|---|-----------|
| 01 | Answer: 32
2 ⁵ means 2 multiplied by itself 5 times: 32. | 1m |
| 02 | Answer: 81
3 ⁴ means 3 multiplied by itself 4 times: 81. | 1m |
| 03 | Answer: 125
5 ³ means 5 multiplied by itself 3 times: 125. | 1m |
| 04 | Answer: 256
4 ⁴ means 4 multiplied by itself 4 times: 256. | 1m |
| 05 | Answer: 1000
10 ³ means 10 multiplied by itself 3 times: 1000. | 1m |
| 06 | Answer: 36
6 ² means 6 multiplied by itself 2 times: 36. | 1m |
| 07 | Answer: 49
7 ² means 7 multiplied by itself 2 times: 49. | 1m |
| 08 | Answer: 256
2 ⁸ means 2 multiplied by itself 8 times: 256. | 1m |
| 09 | Answer: 7
7 ² = 49, so $\sqrt{49} = 7$. | 1m |
| 10 | Answer: 9
9 ² = 81, so $\sqrt{81} = 9$. | 1m |
| 11 | Answer: 11
11 ² = 121, so $\sqrt{121} = 11$. | 1m |
| 12 | Answer: 12
12 ² = 144, so $\sqrt{144} = 12$. | 1m |
| 13 | Answer: 13
13 ² = 169, so $\sqrt{169} = 13$. | 1m |
| 14 | Answer: 14
14 ² = 196, so $\sqrt{196} = 14$. | 1m |
| 15 | Answer: 15
15 ² = 225, so $\sqrt{225} = 15$. | 1m |

Award method marks where the correct operation or set-up is shown. Check units, rounding, simplest form and standard-form conventions.

MODULE 03 / N3, N6, N7

Powers, Roots and Integer Indices

WORKED ANSWERS | QUESTIONS 16-30

Marking guidance: B1 = correct answer; M1 = valid method; A1 = accurate final result. Equivalent simplified answers are accepted.

16 Answer: 17 1m
 $17^2 = 289$, so $\sqrt{289} = 17$.

17 Answer: 2 1m
 $2^3 = 8$, so the cube root is 2.

18 Answer: 3 1m
 $3^3 = 27$, so the cube root is 3.

19 Answer: 4 1m
 $4^3 = 64$, so the cube root is 4.

20 Answer: 5 1m
 $5^3 = 125$, so the cube root is 5.

21 Answer: 6 1m
 $6^3 = 216$, so the cube root is 6.

22 Answer: 7 1m
 $7^3 = 343$, so the cube root is 7.

23 Answer: 2^7 2m
When multiplying equal bases, add powers: $3+4=7$.

24 Answer: 3^7 2m
When multiplying equal bases, add powers: $2+5=7$.

25 Answer: 5^6 2m
When multiplying equal bases, add powers: $4+2=6$.

26 Answer: 7^5 2m
When multiplying equal bases, add powers: $2+3=5$.

27 Answer: 10^7 2m
When multiplying equal bases, add powers: $3+4=7$.

28 Answer: 2^5 2m
When dividing equal bases, subtract powers: $8-3=5$.

29 Answer: 3^5 2m
When dividing equal bases, subtract powers: $7-2=5$.

30 Answer: 5^2 2m
When dividing equal bases, subtract powers: $6-4=2$.

Award method marks where the correct operation or set-up is shown. Check units, rounding, simplest form and standard-form conventions.

MODULE 03 / N3, N6, N7

Powers, Roots and Integer Indices

WORKED ANSWERS | QUESTIONS 31-45

Marking guidance: B1 = correct answer; M1 = valid method; A1 = accurate final result. Equivalent simplified answers are accepted.

31 Answer: 10^4 **2m**

When dividing equal bases, subtract powers: $9-5=4$.

32 Answer: 7^2 **2m**

When dividing equal bases, subtract powers: $5-3=2$.

33 Answer: 2^6 **2m**

Power of a power: $3 \times 2 = 6$.

34 Answer: 3^6 **2m**

Power of a power: $2 \times 3 = 6$.

35 Answer: 5^4 **2m**

Power of a power: $2 \times 2 = 4$.

36 Answer: 10^8 **2m**

Power of a power: $2 \times 4 = 8$.

37 Answer: $1/4$ **2m**

Negative index means reciprocal: $1/2^2 = 1/4$.

38 Answer: $1/5$ **2m**

Negative index means reciprocal: $1/5^1 = 1/5$.

39 Answer: $1/100$ **2m**

Negative index means reciprocal: $1/10^2 = 1/100$.

40 Answer: $1/8$ **2m**

Negative index means reciprocal: $1/2^3 = 1/8$.

41 Answer: 13 **2m**

$\sqrt{36} + \sqrt{49} = 6 + 7 = 13$.

42 Answer: 13 **2m**

$\sqrt{64} + \sqrt{25} = 8 + 5 = 13$.

43 Answer: 13 **2m**

$\sqrt{81} + \sqrt{16} = 9 + 4 = 13$.

44 Answer: 21 **2m**

$\sqrt{100} + \sqrt{121} = 10 + 11 = 21$.

45 Answer: 15 **2m**

$\sqrt{144} + \sqrt{9} = 12 + 3 = 15$.

Award method marks where the correct operation or set-up is shown. Check units, rounding, simplest form and standard-form conventions.

MODULE 04 / N2, N3, N8, N11, N12

Fractions and Mixed Numbers

WORKED ANSWERS | QUESTIONS 1-15

Marking guidance: B1 = correct answer; M1 = valid method; A1 = accurate final result. Equivalent simplified answers are accepted.

- | | | |
|-----------|--|-----------|
| 01 | Answer: $\frac{2}{3}$
Divide numerator and denominator by HCF 6: $\frac{2}{3}$. | 1m |
| 02 | Answer: $\frac{3}{5}$
Divide numerator and denominator by HCF 5: $\frac{3}{5}$. | 1m |
| 03 | Answer: $\frac{3}{5}$
Divide numerator and denominator by HCF 6: $\frac{3}{5}$. | 1m |
| 04 | Answer: $\frac{3}{7}$
Divide numerator and denominator by HCF 7: $\frac{3}{7}$. | 1m |
| 05 | Answer: $\frac{2}{3}$
Divide numerator and denominator by HCF 12: $\frac{2}{3}$. | 1m |
| 06 | Answer: $\frac{2}{3}$
Divide numerator and denominator by HCF 14: $\frac{2}{3}$. | 1m |
| 07 | Answer: $2 \frac{1}{4}$
$9 \div 4 = 2$ remainder 1: $2 \frac{1}{4}$. | 1m |
| 08 | Answer: $3 \frac{2}{3}$
$11 \div 3 = 3$ remainder 2: $3 \frac{2}{3}$. | 1m |
| 09 | Answer: $3 \frac{2}{5}$
$17 \div 5 = 3$ remainder 2: $3 \frac{2}{5}$. | 1m |
| 10 | Answer: $3 \frac{5}{6}$
$23 \div 6 = 3$ remainder 5: $3 \frac{5}{6}$. | 1m |
| 11 | Answer: $3 \frac{5}{8}$
$29 \div 8 = 3$ remainder 5: $3 \frac{5}{8}$. | 1m |
| 12 | Answer: $\frac{7}{3}$
$(2 \times 3 + 1) / 3 = \frac{7}{3}$. | 1m |
| 13 | Answer: $\frac{17}{5}$
$(3 \times 5 + 2) / 5 = \frac{17}{5}$. | 1m |
| 14 | Answer: $\frac{31}{7}$
$(4 \times 7 + 3) / 7 = \frac{31}{7}$. | 1m |
| 15 | Answer: $\frac{13}{8}$
$(1 \times 8 + 5) / 8 = \frac{13}{8}$. | 1m |

Award method marks where the correct operation or set-up is shown. Check units, rounding, simplest form and standard-form conventions.

MODULE 04 / N2, N3, N8, N11, N12

Fractions and Mixed Numbers

WORKED ANSWERS | QUESTIONS 16-30

Marking guidance: B1 = correct answer; M1 = valid method; A1 = accurate final result. Equivalent simplified answers are accepted.

16 Answer: 21/4 1m
 $(5 \times 4 + 1) / 4 = 21/4$.

17 Answer: 7/12 2m
 Use a common denominator, then simplify: 7/12.

18 Answer: 11/15 2m
 Use a common denominator, then simplify: 11/15.

19 Answer: 13/24 2m
 Use a common denominator, then simplify: 13/24.

20 Answer: 13/12 2m
 Use a common denominator, then simplify: 13/12.

21 Answer: 5/7 2m
 Use a common denominator, then simplify: 5/7.

22 Answer: 11/10 2m
 Use a common denominator, then simplify: 11/10.

23 Answer: 7/12 2m
 Use a common denominator, then subtract: 7/12.

24 Answer: 3/8 2m
 Use a common denominator, then subtract: 3/8.

25 Answer: 1/9 2m
 Use a common denominator, then subtract: 1/9.

26 Answer: 7/12 2m
 Use a common denominator, then subtract: 7/12.

27 Answer: 1/2 2m
 Use a common denominator, then subtract: 1/2.

28 Answer: 2/5 2m
 Multiply numerators and denominators, then simplify: 2/5.

29 Answer: 1/2 2m
 Multiply numerators and denominators, then simplify: 1/2.

30 Answer: 1/4 2m
 Multiply numerators and denominators, then simplify: 1/4.

Award method marks where the correct operation or set-up is shown. Check units, rounding, simplest form and standard-form conventions.

MODULE 04 / N2, N3, N8, N11, N12

Fractions and Mixed Numbers

WORKED ANSWERS | QUESTIONS 31-45

Marking guidance: B1 = correct answer; M1 = valid method; A1 = accurate final result. Equivalent simplified answers are accepted.

- | | | |
|-----------|--|-----------|
| 31 | Answer: 1/6
Multiply numerators and denominators, then simplify: $1/6$. | 2m |
| 32 | Answer: 1/2
Multiply numerators and denominators, then simplify: $1/2$. | 2m |
| 33 | Answer: 5/6
Multiply by the reciprocal: $2/3 \times 5/4 = 5/6$. | 2m |
| 34 | Answer: 3/2
Multiply by the reciprocal: $3/7 \times 7/2 = 3/2$. | 2m |
| 35 | Answer: 5/2
Multiply by the reciprocal: $5/6 \times 3/1 = 5/2$. | 2m |
| 36 | Answer: 2/3
Multiply by the reciprocal: $4/9 \times 3/2 = 2/3$. | 2m |
| 37 | Answer: 3/2
Multiply by the reciprocal: $7/8 \times 12/7 = 3/2$. | 2m |
| 38 | Answer: 27
$45 \div 5 \times 3 = 27$. | 2m |
| 39 | Answer: 56
$64 \div 8 \times 7 = 56$. | 2m |
| 40 | Answer: 75
$90 \div 6 \times 5 = 75$. | 2m |
| 41 | Answer: 87
$116 \div 4 \times 3 = 87$. | 2m |
| 42 | Answer: 24
$84 \div 7 \times 2 = 24$. | 2m |
| 43 | Answer: £21
Fraction left = $1 - 2/5 = 3/5$; $3/5 \times 35 = £21$. | 3m |
| 44 | Answer: £48
Fraction left = $1 - 2/8 = 3/4$; $3/4 \times 64 = £48$. | 3m |
| 45 | Answer: £32
Fraction left = $1 - 2/6 = 2/3$; $2/3 \times 48 = £32$. | 3m |

Award method marks where the correct operation or set-up is shown. Check units, rounding, simplest form and standard-form conventions.

MODULE 05 / N2, N10, N12; links R9

Decimals, Percentages and Financial Number

WORKED ANSWERS | QUESTIONS 1-15

Marking guidance: B1 = correct answer; M1 = valid method; A1 = accurate final result. Equivalent simplified answers are accepted.

- | | | |
|-----------|---|-----------|
| 01 | Answer: 2/5
Write over 10, 100 or 1000, then simplify: 2/5. | 2m |
| 02 | Answer: 7/20
Write over 10, 100 or 1000, then simplify: 7/20. | 2m |
| 03 | Answer: 1/8
Write over 10, 100 or 1000, then simplify: 1/8. | 2m |
| 04 | Answer: 5/8
Write over 10, 100 or 1000, then simplify: 5/8. | 2m |
| 05 | Answer: 2/25
Write over 10, 100 or 1000, then simplify: 2/25. | 2m |
| 06 | Answer: 7/8
Write over 10, 100 or 1000, then simplify: 7/8. | 2m |
| 07 | Answer: 0.25
Divide numerator by denominator: $1 \div 4 = 0.25$. | 1m |
| 08 | Answer: 0.6
Divide numerator by denominator: $3 \div 5 = 0.6$. | 1m |
| 09 | Answer: 0.875
Divide numerator by denominator: $7 \div 8 = 0.875$. | 1m |
| 10 | Answer: 0.45
Divide numerator by denominator: $9 \div 20 = 0.45$. | 1m |
| 11 | Answer: 0.12
Divide numerator by denominator: $3 \div 25 = 0.12$. | 1m |
| 12 | Answer: 0.22
Divide numerator by denominator: $11 \div 50 = 0.22$. | 1m |
| 13 | Answer: 7%
Decimal $\times 100 = 7\%$. | 1m |
| 14 | Answer: 35%
Decimal $\times 100 = 35\%$. | 1m |
| 15 | Answer: 62.5%
Decimal $\times 100 = 62.5\%$. | 1m |

Award method marks where the correct operation or set-up is shown. Check units, rounding, simplest form and standard-form conventions.

MODULE 05 / N2, N10, N12; links R9

Decimals, Percentages and Financial Number

WORKED ANSWERS | QUESTIONS 16-30

Marking guidance: B1 = correct answer; M1 = valid method; A1 = accurate final result. Equivalent simplified answers are accepted.

16 Answer: 120% 1m

Decimal $\times 100 = 120\%$.

17 Answer: 4.5% 1m

Decimal $\times 100 = 4.5\%$.

18 Answer: 90% 1m

Decimal $\times 100 = 90\%$.

19 Answer: 12 2m

$15/100 \times 80 = 12$.

20 Answer: 84 2m

$35/100 \times 240 = 84$.

21 Answer: 18 2m

$12/100 \times 150 = 18$.

22 Answer: 21 2m

$7/100 \times 300 = 21$.

23 Answer: 60 2m

$62.5/100 \times 96 = 60$.

24 Answer: 60 2m

$125/100 \times 48 = 60$.

25 Answer: £92.00 3m

Multiplier = 1.15; $\pounds 80 \times 1.15 = \pounds 92.00$.

26 Answer: £268.80 3m

Multiplier = 1.12; $\pounds 240 \times 1.12 = \pounds 268.80$.

27 Answer: £78.00 3m

Multiplier = 1.2; $\pounds 65 \times 1.2 = \pounds 78.00$.

28 Answer: £135.00 3m

Multiplier = 1.08; $\pounds 125 \times 1.08 = \pounds 135.00$.

29 Answer: £378.00 3m

Multiplier = 1.05; $\pounds 360 \times 1.05 = \pounds 378.00$.

30 Answer: £72.00 3m

Multiplier = 0.8; $\pounds 90 \times 0.8 = \pounds 72.00$.

Award method marks where the correct operation or set-up is shown. Check units, rounding, simplest form and standard-form conventions.

MODULE 05 / N2, N10, N12; links R9

Decimals, Percentages and Financial Number

WORKED ANSWERS | QUESTIONS 31-45

Marking guidance: B1 = correct answer; M1 = valid method; A1 = accurate final result. Equivalent simplified answers are accepted.

- | | | |
|-----------|---|-----------|
| 31 | Answer: £132.00
Multiplier = 0.88; $£150 \times 0.88 = £132.00$. | 3m |
| 32 | Answer: £36.00
Multiplier = 0.75; $£48 \times 0.75 = £36.00$. | 3m |
| 33 | Answer: £272.00
Multiplier = 0.85; $£320 \times 0.85 = £272.00$. | 3m |
| 34 | Answer: £69.00
Multiplier = 0.92; $£75 \times 0.92 = £69.00$. | 3m |
| 35 | Answer: 30%
$18 \div 60 \times 100 = 30\%$. | 2m |
| 36 | Answer: 30%
$27 \div 90 \times 100 = 30\%$. | 2m |
| 37 | Answer: 35%
$42 \div 120 \times 100 = 35\%$. | 2m |
| 38 | Answer: 25%
$35 \div 140 \times 100 = 25\%$. | 2m |
| 39 | Answer: 75%
$63 \div 84 \times 100 = 75\%$. | 2m |
| 40 | Answer: £80.00
Original $\times 0.8 = £64.00$; divide by 0.8 to get £80.00. | 3m |
| 41 | Answer: £120.00
Original $\times 0.75 = £90.00$; divide by 0.75 to get £120.00. | 3m |
| 42 | Answer: £160.00
Original $\times 0.9 = £144.00$; divide by 0.9 to get £160.00. | 3m |
| 43 | Answer: £240.00
Original $\times 0.85 = £204.00$; divide by 0.85 to get £240.00. | 3m |
| 44 | Answer: £60.00
Original $\times 0.7 = £42.00$; divide by 0.7 to get £60.00. | 3m |
| 45 | Answer: £198.00
$£240 \times 0.75 \times 1.10 = £198.00$. | 4m |

Award method marks where the correct operation or set-up is shown. Check units, rounding, simplest form and standard-form conventions.

MODULE 06 / N2, N7, N9

Standard Form and Large or Small Numbers

WORKED ANSWERS | QUESTIONS 1-15

Marking guidance: B1 = correct answer; M1 = valid method; A1 = accurate final result. Equivalent simplified answers are accepted.

- | | | |
|-----------|---|-----------|
| 01 | Answer: 4.5×10^3
Move the decimal point 3 places: 4.5×10^3 . | 1m |
| 02 | Answer: 7.2×10^4
Move the decimal point 4 places: 7.2×10^4 . | 1m |
| 03 | Answer: 3.06×10^5
Move the decimal point 5 places: 3.06×10^5 . | 1m |
| 04 | Answer: 8.9×10^6
Move the decimal point 6 places: 8.9×10^6 . | 1m |
| 05 | Answer: 5.1×10^2
Move the decimal point 2 places: 5.1×10^2 . | 1m |
| 06 | Answer: 9.8×10^7
Move the decimal point 7 places: 9.8×10^7 . | 1m |
| 07 | Answer: 1.2×10^5
Move the decimal point 5 places: 1.2×10^5 . | 1m |
| 08 | Answer: 6.04×10^6
Move the decimal point 6 places: 6.04×10^6 . | 1m |
| 09 | Answer: 4.5×10^{-3}
Choose $1 \leq A < 10$: 4.5×10^{-3} . | 2m |
| 10 | Answer: 7.2×10^{-4}
Choose $1 \leq A < 10$: 7.2×10^{-4} . | 2m |
| 11 | Answer: 8.1×10^{-6}
Choose $1 \leq A < 10$: 8.1×10^{-6} . | 2m |
| 12 | Answer: 3.5×10^{-2}
Choose $1 \leq A < 10$: 3.5×10^{-2} . | 2m |
| 13 | Answer: 3.06×10^{-4}
Choose $1 \leq A < 10$: 3.06×10^{-4} . | 2m |
| 14 | Answer: 9.1×10^{-7}
Choose $1 \leq A < 10$: 9.1×10^{-7} . | 2m |
| 15 | Answer: 7.04×10^{-3}
Choose $1 \leq A < 10$: 7.04×10^{-3} . | 2m |

Award method marks where the correct operation or set-up is shown. Check units, rounding, simplest form and standard-form conventions.

MODULE 06 / N2, N7, N9

Standard Form and Large or Small Numbers

WORKED ANSWERS | QUESTIONS 16-30

Marking guidance: B1 = correct answer; M1 = valid method; A1 = accurate final result. Equivalent simplified answers are accepted.

16 Answer: 340000 1m

Move the decimal point 5 places right: 340000.

17 Answer: 8090 1m

Move the decimal point 3 places right: 8090.

18 Answer: 6200000 1m

Move the decimal point 6 places right: 6200000.

19 Answer: 10700 1m

Move the decimal point 4 places right: 10700.

20 Answer: 950 1m

Move the decimal point 2 places right: 950.

21 Answer: 0.00408 1m

Move the decimal point 3 places left: 0.00408.

22 Answer: 7.2e-05 1m

Move the decimal point 5 places left: 7.2e-05.

23 Answer: 0.013 1m

Move the decimal point 2 places left: 0.013.

24 Answer: 6×10^7 3m

Multiply coefficients and add powers, then normalise: 6×10^7 .

25 Answer: 8×10^7 3m

Multiply coefficients and add powers, then normalise: 8×10^7 .

26 Answer: 1.5×10^3 3m

Multiply coefficients and add powers, then normalise: 1.5×10^3 .

27 Answer: 2.4×10^3 3m

Multiply coefficients and add powers, then normalise: 2.4×10^3 .

28 Answer: 2.4×10^{-2} 3m

Multiply coefficients and add powers, then normalise: 2.4×10^{-2} .

29 Answer: 6×10^7 3m

Multiply coefficients and add powers, then normalise: 6×10^7 .

30 Answer: 4×10^4 3m

Divide coefficients and subtract powers, then normalise: 4×10^4 .

Award method marks where the correct operation or set-up is shown. Check units, rounding, simplest form and standard-form conventions.

MODULE 06 / N2, N7, N9

Standard Form and Large or Small Numbers

WORKED ANSWERS | QUESTIONS 31-45

Marking guidance: B1 = correct answer; M1 = valid method; A1 = accurate final result. Equivalent simplified answers are accepted.

31 Answer: 3×10^3 **3m**

Divide coefficients and subtract powers, then normalise: 3×10^3 .

32 Answer: 3×10^5 **3m**

Divide coefficients and subtract powers, then normalise: 3×10^5 .

33 Answer: 2×10^2 **3m**

Divide coefficients and subtract powers, then normalise: 2×10^2 .

34 Answer: 3×10^4 **3m**

Divide coefficients and subtract powers, then normalise: 3×10^4 .

35 Answer: 5.5×10^5 **3m**

Powers match, so add coefficients and normalise: 5.5×10^5 .

36 Answer: 8.1×10^3 **3m**

Powers match, so add coefficients and normalise: 8.1×10^3 .

37 Answer: 1.27×10^5 **3m**

Powers match, so add coefficients and normalise: 1.27×10^5 .

38 Answer: 8.7×10^{-3} **3m**

Powers match, so add coefficients and normalise: 8.7×10^{-3} .

39 Answer: 1.23×10^{-4} **3m**

Powers match, so add coefficients and normalise: 1.23×10^{-4} .

40 Answer: 8×10^1 **4m**

Samples = total $\div$ per sample = 8×10^1 .

41 Answer: 1.24×10^3 **4m**

Samples = total $\div$ per sample = 1.24×10^3 .

42 Answer: 2.4×10^1 **4m**

Samples = total $\div$ per sample = 2.4×10^1 .

43 Answer: 2.5×10^2 **4m**

Samples = total $\div$ per sample = 2.5×10^2 .

44 Answer: 2.4×10^3 **4m**

Samples = total $\div$ per sample = 2.4×10^3 .

45 Answer: 6×10^2 **4m**

Samples = total $\div$ per sample = 6×10^2 .

Award method marks where the correct operation or set-up is shown. Check units, rounding, simplest form and standard-form conventions.

MODULE 07 / N14, N15, N16

Rounding, Estimation and Limits of Accuracy

WORKED ANSWERS | QUESTIONS 1-15

Marking guidance: B1 = correct answer; M1 = valid method; A1 = accurate final result. Equivalent simplified answers are accepted.

- | | | |
|-----------|--|-----------|
| 01 | Answer: 4.79
Check the next digit: 4.79. | 1m |
| 02 | Answer: 19.0
Check the next digit: 19.0. | 1m |
| 03 | Answer: 0.088
Check the next digit: 0.088. | 1m |
| 04 | Answer: 39.00
Check the next digit: 39.00. | 1m |
| 05 | Answer: 7.45
Check the next digit: 7.45. | 1m |
| 06 | Answer: 126.7
Check the next digit: 126.7. | 1m |
| 07 | Answer: 1.00
Check the next digit: 1.00. | 1m |
| 08 | Answer: 4900
Count significant digits from the first non-zero digit: 4900. | 1m |
| 09 | Answer: 0.078
Count significant digits from the first non-zero digit: 0.078. | 1m |
| 10 | Answer: 52400
Count significant digits from the first non-zero digit: 52400. | 1m |
| 11 | Answer: 0.01
Count significant digits from the first non-zero digit: 0.01. | 1m |
| 12 | Answer: 685
Count significant digits from the first non-zero digit: 685. | 1m |
| 13 | Answer: 10000
Count significant digits from the first non-zero digit: 10000. | 1m |
| 14 | Answer: 0.00071
Count significant digits from the first non-zero digit: 0.00071. | 1m |
| 15 | Answer: 360
Count significant digits from the first non-zero digit: 360. | 1m |

Award method marks where the correct operation or set-up is shown. Check units, rounding, simplest form and standard-form conventions.

MODULE 07 / N14, N15, N16

Rounding, Estimation and Limits of Accuracy

WORKED ANSWERS | QUESTIONS 16-30

Marking guidance: B1 = correct answer; M1 = valid method; A1 = accurate final result. Equivalent simplified answers are accepted.

16 Answer: 111.111111 2m
 $(50 \times 20) \div 9 = 111.111111$.

17 Answer: 1000 2m
 $(200 \times 30) \div 6 = 1000$.

18 Answer: 320 2m
 $(80 \times 40) \div 10 = 320$.

19 Answer: 400 2m
 $(600 \times 20) \div 30 = 400$.

20 Answer: 300 2m
 $(30 \times 50) \div 5 = 300$.

21 Answer: $6.5 \leq x < 7.5$ cm 2m
Half the rounding unit is 0.5: $6.5 \leq x < 7.5$ cm.

22 Answer: $12.5 \leq x < 13.5$ kg 2m
Half the rounding unit is 0.5: $12.5 \leq x < 13.5$ kg.

23 Answer: $23.5 \leq x < 24.5$ m 2m
Half the rounding unit is 0.5: $23.5 \leq x < 24.5$ m.

24 Answer: $47.5 \leq x < 48.5$ mm 2m
Half the rounding unit is 0.5: $47.5 \leq x < 48.5$ mm.

25 Answer: $104.5 \leq x < 105.5$ g 2m
Half the rounding unit is 0.5: $104.5 \leq x < 105.5$ g.

26 Answer: $12.35 \leq L < 12.45$ cm 2m
Half of 0.1 cm is 0.05 cm: $12.35 \leq L < 12.45$.

27 Answer: $7.75 \leq L < 7.85$ cm 2m
Half of 0.1 cm is 0.05 cm: $7.75 \leq L < 7.85$.

28 Answer: $19.55 \leq L < 19.65$ cm 2m
Half of 0.1 cm is 0.05 cm: $19.55 \leq L < 19.65$.

29 Answer: $35.15 \leq L < 35.25$ cm 2m
Half of 0.1 cm is 0.05 cm: $35.15 \leq L < 35.25$.

30 Answer: $0.85 \leq L < 0.95$ cm 2m
Half of 0.1 cm is 0.05 cm: $0.85 \leq L < 0.95$.

Award method marks where the correct operation or set-up is shown. Check units, rounding, simplest form and standard-form conventions.

MODULE 07 / N14, N15, N16

Rounding, Estimation and Limits of Accuracy

WORKED ANSWERS | QUESTIONS 31-45

Marking guidance: B1 = correct answer; M1 = valid method; A1 = accurate final result. Equivalent simplified answers are accepted.

31 Answer: 115 g, 125 g 2m
Half of 10 g is 5 g, so bounds are 115 g and 125 g.

32 Answer: 345 g, 355 g 2m
Half of 10 g is 5 g, so bounds are 345 g and 355 g.

33 Answer: 475 g, 485 g 2m
Half of 10 g is 5 g, so bounds are 475 g and 485 g.

34 Answer: 905 g, 915 g 2m
Half of 10 g is 5 g, so bounds are 905 g and 915 g.

35 Answer: 235 g, 245 g 2m
Half of 10 g is 5 g, so bounds are 235 g and 245 g.

36 Answer: 12 cm, 14 cm 3m
Lower = $7.5 + 4.5 = 12$; upper = $8.5 + 5.5 = 14$.

37 Answer: 18 cm, 20 cm 3m
Lower = $11.5 + 6.5 = 18$; upper = $12.5 + 7.5 = 20$.

38 Answer: 23 cm, 25 cm 3m
Lower = $14.5 + 8.5 = 23$; upper = $15.5 + 9.5 = 25$.

39 Answer: 25 cm, 27 cm 3m
Lower = $19.5 + 5.5 = 25$; upper = $20.5 + 6.5 = 27$.

40 Answer: 28 cm, 30 cm 3m
Lower = $17.5 + 10.5 = 28$; upper = $18.5 + 11.5 = 30$.

41 Answer: $2 < D < 4$ cm 3m
Lower: $7.5 - 5.5 = 2$; upper: $8.5 - 4.5 = 4$. Therefore $2 < D < 4$.

42 Answer: $4 < D < 6$ cm 3m
Lower: $11.5 - 7.5 = 4$; upper: $12.5 - 6.5 = 6$. Therefore $4 < D < 6$.

43 Answer: $5 < D < 7$ cm 3m
Lower: $14.5 - 9.5 = 5$; upper: $15.5 - 8.5 = 7$. Therefore $5 < D < 7$.

44 Answer: $13 < D < 15$ cm 3m
Lower: $19.5 - 6.5 = 13$; upper: $20.5 - 5.5 = 15$. Therefore $13 < D < 15$.

45 Answer: $6 < D < 8$ cm 3m
Lower: $17.5 - 11.5 = 6$; upper: $18.5 - 10.5 = 8$. Therefore $6 < D < 8$.

Award method marks where the correct operation or set-up is shown. Check units, rounding, simplest form and standard-form conventions.

MODULE 08 / N2, N3, N12, N13, N14

Units, Money and Multi-step Number Problems

WORKED ANSWERS | QUESTIONS 1-15

Marking guidance: B1 = correct answer; M1 = valid method; A1 = accurate final result. Equivalent simplified answers are accepted.

01 Answer: 2400 m 1m
1 km = 1000 m; $2.4 \times 1000 = 2400$ m.

02 Answer: 750 m 1m
1 km = 1000 m; $0.75 \times 1000 = 750$ m.

03 Answer: 3080 m 1m
1 km = 1000 m; $3.08 \times 1000 = 3080$ m.

04 Answer: 1250 m 1m
1 km = 1000 m; $1.25 \times 1000 = 1250$ m.

05 Answer: 65 m 1m
1 km = 1000 m; $0.065 \times 1000 = 65$ m.

06 Answer: 0.35 kg 1m
1 kg = 1000 g; $350 \div 1000 = 0.35$ kg.

07 Answer: 0.825 kg 1m
1 kg = 1000 g; $825 \div 1000 = 0.825$ kg.

08 Answer: 0.045 kg 1m
1 kg = 1000 g; $45 \div 1000 = 0.045$ kg.

09 Answer: 1.26 kg 1m
1 kg = 1000 g; $1260 \div 1000 = 1.26$ kg.

10 Answer: 2.5 kg 1m
1 kg = 1000 g; $2500 \div 1000 = 2.5$ kg.

11 Answer: 1800 ml 1m
1 litre = 1000 ml; $1.8 \times 1000 = 1800$ ml.

12 Answer: 450 ml 1m
1 litre = 1000 ml; $0.45 \times 1000 = 450$ ml.

13 Answer: 2750 ml 1m
1 litre = 1000 ml; $2.75 \times 1000 = 2750$ ml.

14 Answer: 90 ml 1m
1 litre = 1000 ml; $0.09 \times 1000 = 90$ ml.

15 Answer: 3125 ml 1m
1 litre = 1000 ml; $3.125 \times 1000 = 3125$ ml.

Award method marks where the correct operation or set-up is shown. Check units, rounding, simplest form and standard-form conventions.

MODULE 08 / N2, N3, N12, N13, N14

Units, Money and Multi-step Number Problems

WORKED ANSWERS | QUESTIONS 16-30

Marking guidance: B1 = correct answer; M1 = valid method; A1 = accurate final result. Equivalent simplified answers are accepted.

16 Answer: 1 h 35 min 2m

Divide by 60: 1 full hours and 35 minutes.

17 Answer: 2 h 15 min 2m

Divide by 60: 2 full hours and 15 minutes.

18 Answer: 3 h 5 min 2m

Divide by 60: 3 full hours and 5 minutes.

19 Answer: 4 h 5 min 2m

Divide by 60: 4 full hours and 5 minutes.

20 Answer: 5 h 10 min 2m

Divide by 60: 5 full hours and 10 minutes.

21 Answer: £2.80 2m

Total = $3 \times £2.40 = £7.20$; change = £2.80.

22 Answer: £2.60 2m

Total = $4 \times £1.85 = £7.40$; change = £2.60.

23 Answer: £4.00 2m

Total = $5 \times £3.20 = £16.00$; change = £4.00.

24 Answer: £3.50 2m

Total = $6 \times £2.75 = £16.50$; change = £3.50.

25 Answer: £0.55 2m

Total = $7 \times £1.35 = £9.45$; change = £0.55.

26 Answer: Pack B 3m

Pack A: £0.80 each; Pack B: £0.75 each. Choose Pack B.

27 Answer: Pack B 3m

Pack A: £0.90 each; Pack B: £0.80 each. Choose Pack B.

28 Answer: Pack B 3m

Pack A: £0.85 each; Pack B: £0.80 each. Choose Pack B.

29 Answer: Pack B 3m

Pack A: £0.85 each; Pack B: £0.80 each. Choose Pack B.

30 Answer: Pack A 3m

Pack A: £0.75 each; Pack B: £0.78 each. Choose Pack A.

Award method marks where the correct operation or set-up is shown. Check units, rounding, simplest form and standard-form conventions.

MODULE 08 / N2, N3, N12, N13, N14

Units, Money and Multi-step Number Problems

WORKED ANSWERS | QUESTIONS 31-45

Marking guidance: B1 = correct answer; M1 = valid method; A1 = accurate final result. Equivalent simplified answers are accepted.

31 Answer: 6 bags; 0 remaining 3m
 $60 - 18 = 42$; $42 \div 7 = 6$ remainder 0.

32 Answer: 7 bags; 0 remaining 3m
 $84 - 28 = 56$; $56 \div 8 = 7$ remainder 0.

33 Answer: 8 bags; 0 remaining 3m
 $96 - 24 = 72$; $72 \div 9 = 8$ remainder 0.

34 Answer: 9 bags; 0 remaining 3m
 $72 - 18 = 54$; $54 \div 6 = 9$ remainder 0.

35 Answer: 8 bags; 0 remaining 3m
 $120 - 40 = 80$; $80 \div 10 = 8$ remainder 0.

36 Answer: £51.50 3m
 $3 \times £12.50 + 2 \times £7.00 = £51.50$.

37 Answer: £64.00 3m
 $2 \times £15.00 + 4 \times £8.50 = £64.00$.

38 Answer: £63.50 3m
 $4 \times £11.00 + 3 \times £6.50 = £63.50$.

39 Answer: £57.50 3m
 $5 \times £9.50 + 2 \times £5.00 = £57.50$.

40 Answer: £79.50 3m
 $3 \times £14.00 + 5 \times £7.50 = £79.50$.

41 Answer: £212.00 4m
 $£240 \times 0.85 + £8 = £212.00$.

42 Answer: £300.00 4m
 $£360 \times 0.8 + £12 = £300.00$.

43 Answer: £375.00 4m
 $£480 \times 0.75 + £15 = £375.00$.

44 Answer: £141.00 4m
 $£150 \times 0.9 + £6 = £141.00$.

45 Answer: £289.00 4m
 $£320 \times 0.875 + £9 = £289.00$.

Award method marks where the correct operation or set-up is shown. Check units, rounding, simplest form and standard-form conventions.