

GCSE ONLINE TUTORING

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GCSE MATHEMATICS FOUNDATION TIER

UNIT 2: ALGEBRA

18 chapters | 216 curated questions | 1-5 marks

Student name: _____

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Contents and publication statement

This curated edition prioritises distinct tasks, accurate tier boundaries and visible reasoning. Marks indicate an independent teaching allocation, not an official OCR mark scheme.

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2	Collecting like terms
3	Substitution into expressions
4	Expanding single brackets
5	Factorising expressions
6	Forming expressions and equations
7	Formulae and substitution
8	One-step and two-step equations
9	Equations with brackets and unknowns on both sides
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17	Simultaneous linear equations
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FOUNDATION TIER

UNIT 2 | CHAPTER 1

Algebraic notation and vocabulary

12 curated questions | complete solutions

Chapter focus

Variables, coefficients, terms, expressions, equations and identities

Assessment progression

Questions 1-4 build secure Foundation fluency; Questions 5-8 develop connected methods; Questions 9-12 reach Grade 4-5 reasoning.

You must show your working for every question worth 5 marks or more.

Source-use notice

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Chapter 1: Algebraic notation and vocabulary

Q01 | 1 MARK

In $2x+3$, write down the coefficient of x .

Q02 | 1 MARK

In $4x+5$, write down the coefficient of x .

Chapter 1: Algebraic notation and vocabulary

Q03 | 1 MARK

In $6x+7$, write down the coefficient of x .

Q04 | 2 MARKS

For $8x+9$, identify the variable and constant.

Chapter 1: Algebraic notation and vocabulary

Q05 | 2 MARKS

For $10x+11$, identify the variable and constant.

Q06 | 2 MARKS

For $12x+13$, identify the variable and constant.

Chapter 1: Algebraic notation and vocabulary

Q07 | 2 MARKS

For $14x+15$, identify the variable and constant.

Q08 | 2 MARKS

For $16x+17$, identify the variable and constant.

Chapter 1: Algebraic notation and vocabulary

Q09 | 3 MARKS

For the statement $6x+7=1y-6$, identify every variable, coefficient, constant and term. Explain why the left side is an expression but the whole statement is an equation.

Q10 | 3 MARKS

For the statement $7x+7=3y-7$, identify every variable, coefficient, constant and term. Explain why the left side is an expression but the whole statement is an equation.

Chapter 1: Algebraic notation and vocabulary

Q11 | 4 MARKS

For the statement $3x+3=1y-3$, identify every variable, coefficient, constant and term. Explain why the left side is an expression but the whole statement is an equation.

Q12 | 5 MARKS

You must show your working.

For the statement $4x+3=3y-4$, identify every variable, coefficient, constant and term. Explain why the left side is an expression but the whole statement is an equation.

Worked solutions

Q01 | 1 MARK

2.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q02 | 1 MARK

4.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q03 | 1 MARK

6.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q04 | 2 MARKS

Variable x ; constant 9.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q05 | 2 MARKS

Variable x ; constant 11.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q06 | 2 MARKS

Variable x ; constant 13.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q07 | 2 MARKS

Variable x ; constant 15.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q08 | 2 MARKS

Variable x ; constant 17.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q09 | 3 MARKS

Variables: x and y . Coefficients: 6 and 1. Constants: 7 and -6. Terms are $6x$, 7, $1y$ and -6. Each side is an expression; the equality sign makes the complete statement an equation.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q10 | 3 MARKS

Variables: x and y . Coefficients: 7 and 3. Constants: 7 and -7. Terms are $7x$, 7, $3y$ and -7. Each side is an expression; the equality sign makes the complete statement an equation.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q11 | 4 MARKS

Variables: x and y . Coefficients: 3 and 1. Constants: 3 and -3. Terms are $3x$, 3, $1y$ and -3. Each side is an expression; the equality sign makes the complete statement an equation.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q12 | 5 MARKS

Variables: x and y . Coefficients: 4 and 3. Constants: 3 and -4. Terms are $4x$, 3, $3y$ and -4. Each side is an expression; the equality sign makes the complete statement an equation.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Chapter completion record

Question	Score / marks	Repair target	Retest date
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FOUNDATION TIER

UNIT 2 | CHAPTER 2

Collecting like terms

12 curated questions | complete solutions

Chapter focus

Simplifying linear expressions and preserving unlike terms

Assessment progression

Questions 1-4 build secure Foundation fluency; Questions 5-8 develop connected methods; Questions 9-12 reach Grade 4-5 reasoning.

You must show your working for every question worth 5 marks or more.

Source-use notice

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Chapter 2: Collecting like terms

Q01 | 1 MARK

Simplify $2x+3x$.

Q02 | 1 MARK

Simplify $4x+5x$.

Chapter 2: Collecting like terms

Q03 | 1 MARK

Simplify $6x+7x$.

Q04 | 2 MARKS

Simplify $8x+9y+2x$.

Chapter 2: Collecting like terms

Q05 | 2 MARKS

Simplify $10x+11y+2x$.

Q06 | 2 MARKS

Simplify $12x+13y+2x$.

Chapter 2: Collecting like terms

Q07 | 2 MARKS

Simplify $14x+15y+2x$.

Q08 | 2 MARKS

Simplify $16x+17y+2x$.

Chapter 2: Collecting like terms

Q09 | 3 MARKS

Simplify $6x+7y+1x-5y+4$. State why x-terms cannot be combined with y-terms.

Q10 | 3 MARKS

Simplify $7x+7y+3x-6y+4$. State why x-terms cannot be combined with y-terms.

Chapter 2: Collecting like terms

Q11 | 4 MARKS

Simplify $3x+3y+1x-2y+4$. State why x-terms cannot be combined with y-terms.

Q12 | 5 MARKS

You must show your working.

Simplify $4x+3y+3x-3y+4$. State why x-terms cannot be combined with y-terms.

Worked solutions

Q01 | 1 MARK

5x.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q02 | 1 MARK

9x.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q03 | 1 MARK

$13x$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q04 | 2 MARKS

$10x+9y$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q05 | 2 MARKS

$$12x+11y.$$

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q06 | 2 MARKS

$$14x+13y.$$

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q07 | 2 MARKS

$16x+15y$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q08 | 2 MARKS

$18x+17y$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q09 | 3 MARKS

Collect matching variable parts: x coefficient= $6+1=7$; y coefficient= $7-(5)=2$. Result: $7x+2y+4$. Unlike terms represent different quantities and cannot be collected.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q10 | 3 MARKS

Collect matching variable parts: x coefficient= $7+3=10$; y coefficient= $7-(6)=1$. Result: $10x+1y+4$. Unlike terms represent different quantities and cannot be collected.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q11 | 4 MARKS

Collect matching variable parts: x coefficient= $3+1=4$; y coefficient= $3-(2)=1$. Result: $4x+1y+4$. Unlike terms represent different quantities and cannot be collected.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q12 | 5 MARKS

Collect matching variable parts: x coefficient= $4+3=7$; y coefficient= $3-(3)=0$. Result: $7xy+4$. Unlike terms represent different quantities and cannot be collected.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Chapter completion record

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FOUNDATION TIER

UNIT 2 | CHAPTER 3

Substitution into expressions

12 curated questions | complete solutions

Chapter focus

Positive and negative values, powers and careful brackets

Assessment progression

Questions 1-4 build secure Foundation fluency; Questions 5-8 develop connected methods; Questions 9-12 reach Grade 4-5 reasoning.

You must show your working for every question worth 5 marks or more.

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Chapter 3: Substitution into expressions

Q01 | 1 MARK

Find $3x+1$ when $x=2$.

Q02 | 1 MARK

Find $3x+1$ when $x=4$.

Chapter 3: Substitution into expressions

Q03 | 1 MARK

Find $3x+1$ when $x=6$.

Q04 | 2 MARKS

Find x^2-2x when $x=-8$.

Chapter 3: Substitution into expressions

Q05 | 2 MARKS

Find $x^2 - 2x$ when $x = -10$.

Q06 | 2 MARKS

Find $x^2 - 2x$ when $x = -12$.

Chapter 3: Substitution into expressions

Q07 | 2 MARKS

Find $x^2 - 2x$ when $x = -14$.

Q08 | 2 MARKS

Find $x^2 - 2x$ when $x = -16$.

Chapter 3: Substitution into expressions

Q09 | 3 MARKS

Evaluate $6x^2 - 7y + 1$ when $x=1$ and $y=5$. Show brackets around negative substituted values and check the squared term.

Q10 | 3 MARKS

Evaluate $7x^2 - 7y + 3$ when $x=2$ and $y=3$. Show brackets around negative substituted values and check the squared term.

Chapter 3: Substitution into expressions

Q11 | 4 MARKS

Evaluate $3x^2 - 3y + 1$ when $x = -2$ and $y = 3$. Show brackets around negative substituted values and check the squared term.

Q12 | 5 MARKS

You must show your working.

Evaluate $4x^2 - 3y + 3$ when $x = -1$ and $y = 6$. Show brackets around negative substituted values and check the squared term.

Worked solutions

Q01 | 1 MARK

7.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q02 | 1 MARK

13.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q03 | 1 MARK

19.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q04 | 2 MARKS

$(-8)^2 - 2(-8) = 80$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q05 | 2 MARKS

$$(-10)^2 - 2(-10) = 120.$$

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q06 | 2 MARKS

$$(-12)^2 - 2(-12) = 168.$$

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q07 | 2 MARKS

$$(-14)^2 - 2(-14) = 224.$$

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q08 | 2 MARKS

$$(-16)^2 - 2(-16) = 288.$$

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q09 | 3 MARKS

$6(1)^2 - 7(5) + 1 = 6 - 35 + 1 = -28$. Squaring acts on the whole substituted value.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q10 | 3 MARKS

$7(2)^2 - 7(3) + 3 = 28 - 21 + 3 = 10$. Squaring acts on the whole substituted value.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q11 | 4 MARKS

$3(-2)^2 - 3(3) + 1 = 12 - 9 + 1 = 4$. Squaring acts on the whole substituted value.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q12 | 5 MARKS

$4(-1)^2 - 3(6) + 3 = 4 - 18 + 3 = -11$. Squaring acts on the whole substituted value.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Chapter completion record

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FOUNDATION TIER

UNIT 2 | CHAPTER 4

Expanding single brackets

12 curated questions | complete solutions

Chapter focus

Distributive multiplication and simplifying after expansion

Assessment progression

Questions 1-4 build secure Foundation fluency; Questions 5-8 develop connected methods; Questions 9-12 reach Grade 4-5 reasoning.

You must show your working for every question worth 5 marks or more.

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Chapter 4: Expanding single brackets

Q01 | 1 MARK

Expand $2(x+2)$.

Q02 | 1 MARK

Expand $4(x+2)$.

Chapter 4: Expanding single brackets

Q03 | 1 MARK

Expand $6(x+2)$.

Q04 | 2 MARKS

Expand and simplify $8(x+2)+x$.

Chapter 4: Expanding single brackets

Q05 | 2 MARKS

Expand and simplify $10(x+2)+x$.

Q06 | 2 MARKS

Expand and simplify $12(x+2)+x$.

Chapter 4: Expanding single brackets

Q07 | 2 MARKS

Expand and simplify $14(x+2)+x$.

Q08 | 2 MARKS

Expand and simplify $16(x+2)+x$.

Chapter 4: Expanding single brackets

Q09 | 3 MARKS

Expand and simplify $6(x+1)-7(x-1)+2x$. Check your constant signs.

Q10 | 3 MARKS

Expand and simplify $7(x+3)-7(x-3)+2x$. Check your constant signs.

Chapter 4: Expanding single brackets

Q11 | 4 MARKS

Expand and simplify $3(x+1)-3(x-1)+2x$. Check your constant signs.

Q12 | 5 MARKS

You must show your working.

Expand and simplify $4(x+3)-3(x-3)+2x$. Check your constant signs.

Worked solutions

Q01 | 1 MARK

$$2x+4.$$

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q02 | 1 MARK

$$4x+8.$$

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q03 | 1 MARK

$$6x+12.$$

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q04 | 2 MARKS

$$9x+16.$$

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q05 | 2 MARKS

$$11x+20.$$

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q06 | 2 MARKS

$$13x+24.$$

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q07 | 2 MARKS

$15x+28$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q08 | 2 MARKS

$17x+32$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q09 | 3 MARKS

$6x+6-7x+7+2x=x+13$. The subtraction before the second bracket changes both signs.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q10 | 3 MARKS

$7x+21-7x+21+2x=2x+42$. The subtraction before the second bracket changes both signs.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q11 | 4 MARKS

$3x+3-3x+3+2x=2x+6$. The subtraction before the second bracket changes both signs.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q12 | 5 MARKS

$4x+12-3x+9+2x=3x+21$. The subtraction before the second bracket changes both signs.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Chapter completion record

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FOUNDATION TIER

UNIT 2 | CHAPTER 5

Factorising expressions

12 curated questions | complete solutions

Chapter focus

Common numerical and algebraic factors

Assessment progression

Questions 1-4 build secure Foundation fluency; Questions 5-8 develop connected methods; Questions 9-12 reach Grade 4-5 reasoning.

You must show your working for every question worth 5 marks or more.

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Chapter 5: Factorising expressions

Q01 | 1 MARK

Factorise $2x+4$.

Q02 | 1 MARK

Factorise $4x+8$.

Chapter 5: Factorising expressions

Q03 | 1 MARK

Factorise $6x+12$.

Q04 | 2 MARKS

Factorise $8x^2+16x$.

Chapter 5: Factorising expressions

Q05 | 2 MARKS

Factorise $10x^2 + 20x$.

Q06 | 2 MARKS

Factorise $12x^2 + 24x$.

Chapter 5: Factorising expressions

Q07 | 2 MARKS

Factorise $14x^2 + 28x$.

Q08 | 2 MARKS

Factorise $16x^2 + 32x$.

Chapter 5: Factorising expressions

Q09 | 3 MARKS

Factorise fully $12x^2+14x$. Expand your answer to verify it.

Q10 | 3 MARKS

Factorise fully $28x^2+28x$. Expand your answer to verify it.

Chapter 5: Factorising expressions

Q11 | 4 MARKS

Factorise fully $6x^2+6x$. Expand your answer to verify it.

Q12 | 5 MARKS

You must show your working.

Factorise fully $16x^2+12x$. Expand your answer to verify it.

Worked solutions

Q01 | 1 MARK

$$2(x+2).$$

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q02 | 1 MARK

$$4(x+2).$$

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q03 | 1 MARK

$$6(x+2).$$

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q04 | 2 MARKS

$$8x(x+2).$$

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q05 | 2 MARKS

$$10x(x+2).$$

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q06 | 2 MARKS

$$12x(x+2).$$

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q07 | 2 MARKS

$$14x(x+2).$$

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q08 | 2 MARKS

$$16x(x+2).$$

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q09 | 3 MARKS

The common factor is $2x$, so $2x(6x+7)$. Expanding returns $12x^2+14x$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q10 | 3 MARKS

The common factor is $4x$, so $4x(7x+7)$. Expanding returns $28x^2+28x$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q11 | 4 MARKS

The common factor is $2x$, so $2x(3x+3)$. Expanding returns $6x^2+6x$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q12 | 5 MARKS

The common factor is $4x$, so $4x(4x+3)$. Expanding returns $16x^2+12x$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Chapter completion record

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FOUNDATION TIER

UNIT 2 | CHAPTER 6

Forming expressions and equations

12 curated questions | complete solutions

Chapter focus

Translating words, shapes and contexts into algebra

Assessment progression

Questions 1-4 build secure Foundation fluency; Questions 5-8 develop connected methods; Questions 9-12 reach Grade 4-5 reasoning.

You must show your working for every question worth 5 marks or more.

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Chapter 6: Forming expressions and equations

Q01 | 1 MARK

Write an expression for 2 more than x .

Q02 | 1 MARK

Write an expression for 4 more than x .

Chapter 6: Forming expressions and equations

Q03 | 1 MARK

Write an expression for 6 more than x .

Q04 | 2 MARKS

A rectangle has sides x and 8. Write its perimeter.

Chapter 6: Forming expressions and equations

Q05 | 2 MARKS

A rectangle has sides x and 10. Write its perimeter.

Q06 | 2 MARKS

A rectangle has sides x and 12. Write its perimeter.

Chapter 6: Forming expressions and equations

Q07 | 2 MARKS

A rectangle has sides x and 14. Write its perimeter.

Q08 | 2 MARKS

A rectangle has sides x and 16. Write its perimeter.

Chapter 6: Forming expressions and equations

Q09 | 3 MARKS

A rectangle has length $6x+7$ cm and width $x+1$ cm. Form and simplify an expression for its perimeter. If the perimeter is 86 cm, form an equation for x .

Q10 | 3 MARKS

A rectangle has length $7x+7$ cm and width $x+3$ cm. Form and simplify an expression for its perimeter. If the perimeter is 68 cm, form an equation for x .

Chapter 6: Forming expressions and equations

Q11 | 4 MARKS

A rectangle has length $3x+3$ cm and width $x+1$ cm. Form and simplify an expression for its perimeter. If the perimeter is 32 cm, form an equation for x .

Q12 | 5 MARKS

You must show your working.

A rectangle has length $4x+3$ cm and width $x+3$ cm. Form and simplify an expression for its perimeter. If the perimeter is 72 cm, form an equation for x .

Worked solutions

Q01 | 1 MARK

$x+2$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q02 | 1 MARK

$x+4$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q03 | 1 MARK

$x+6$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q04 | 2 MARKS

$2x+16$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q05 | 2 MARKS

$$2x+20.$$

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q06 | 2 MARKS

$$2x+24.$$

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q07 | 2 MARKS

$$2x+28.$$

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q08 | 2 MARKS

$$2x+32.$$

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q09 | 3 MARKS

$P=2[(6x+7)+(x+1)]=14x+16$. Required equation: $14x+16=86$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q10 | 3 MARKS

$P=2[(7x+7)+(x+3)]=16x+20$. Required equation: $16x+20=68$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q11 | 4 MARKS

$P=2[(3x+3)+(x+1)]=8x+8$. Required equation: $8x+8=32$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q12 | 5 MARKS

$P=2[(4x+3)+(x+3)]=10x+12$. Required equation: $10x+12=72$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Chapter completion record

Question	Score / marks	Repair target	Retest date
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FOUNDATION TIER

UNIT 2 | CHAPTER 7

Formulae and substitution

12 curated questions | complete solutions

Chapter focus

Using multi-variable formulae with units and sensible interpretation

Assessment progression

Questions 1-4 build secure Foundation fluency; Questions 5-8 develop connected methods; Questions 9-12 reach Grade 4-5 reasoning.

You must show your working for every question worth 5 marks or more.

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Chapter 7: Formulae and substitution

Q01 | 1 MARK

Use $C=3n+2$ to find C when $n=2$.

Q02 | 1 MARK

Use $C=3n+2$ to find C when $n=4$.

Chapter 7: Formulae and substitution

Q03 | 1 MARK

Use $C=3n+2$ to find C when $n=6$.

Q04 | 2 MARKS

Use $A=lw$ to find A when $l=8$ and $w=9$.

Chapter 7: Formulae and substitution

Q05 | 2 MARKS

Use $A=lw$ to find A when $l=10$ and $w=11$.

Q06 | 2 MARKS

Use $A=lw$ to find A when $l=12$ and $w=13$.

Chapter 7: Formulae and substitution

Q07 | 2 MARKS

Use $A=lw$ to find A when $l=14$ and $w=15$.

Q08 | 2 MARKS

Use $A=lw$ to find A when $l=16$ and $w=17$.

Chapter 7: Formulae and substitution

Q09 | 3 MARKS

Use $V=lwh$ to calculate V when $l=7$, $w=2$, $h=7$. Then convert the result from cm^3 to mm^3 and explain the conversion factor.

Q10 | 3 MARKS

Use $V=lwh$ to calculate V when $l=8$, $w=4$, $h=5$. Then convert the result from cm^3 to mm^3 and explain the conversion factor.

Chapter 7: Formulae and substitution

Q11 | 4 MARKS

Use $V=lwh$ to calculate V when $l=4$, $w=2$, $h=5$. Then convert the result from cm^3 to mm^3 and explain the conversion factor.

Q12 | 5 MARKS

You must show your working.

Use $V=lwh$ to calculate V when $l=5$, $w=4$, $h=8$. Then convert the result from cm^3 to mm^3 and explain the conversion factor.

Worked solutions

Q01 | 1 MARK

8.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q02 | 1 MARK

14.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q03 | 1 MARK

20.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q04 | 2 MARKS

72.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q05 | 2 MARKS

110.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q06 | 2 MARKS

156.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q07 | 2 MARKS

210.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q08 | 2 MARKS

272.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q09 | 3 MARKS

$V = 7 \times 2 \times 7 = 98 \text{ cm}^3$. Since $1 \text{ cm} = 10 \text{ mm}$, $1 \text{ cm}^3 = 1000 \text{ mm}^3$, so $V = 98000 \text{ mm}^3$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q10 | 3 MARKS

$V = 8 \times 4 \times 5 = 160 \text{ cm}^3$. Since $1 \text{ cm} = 10 \text{ mm}$, $1 \text{ cm}^3 = 1000 \text{ mm}^3$, so $V = 160000 \text{ mm}^3$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q11 | 4 MARKS

$V = 4 \times 2 \times 5 = 40 \text{ cm}^3$. Since $1 \text{ cm} = 10 \text{ mm}$, $1 \text{ cm}^3 = 1000 \text{ mm}^3$, so $V = 40000 \text{ mm}^3$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q12 | 5 MARKS

$V = 5 \times 4 \times 8 = 160 \text{ cm}^3$. Since $1 \text{ cm} = 10 \text{ mm}$, $1 \text{ cm}^3 = 1000 \text{ mm}^3$, so $V = 160000 \text{ mm}^3$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

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FOUNDATION TIER

UNIT 2 | CHAPTER 8

One-step and two-step equations

12 curated questions | complete solutions

Chapter focus

Inverse operations and checking by substitution

Assessment progression

Questions 1-4 build secure Foundation fluency; Questions 5-8 develop connected methods; Questions 9-12 reach Grade 4-5 reasoning.

You must show your working for every question worth 5 marks or more.

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Chapter 8: One-step and two-step equations

Q01 | 1 MARK

Solve $x+2=5$.

Q02 | 1 MARK

Solve $x+4=9$.

Chapter 8: One-step and two-step equations

Q03 | 1 MARK

Solve $x+6=13$.

Q04 | 2 MARKS

Solve $8x=72$.

Chapter 8: One-step and two-step equations

Q05 | 2 MARKS

Solve $10x=110$.

Q06 | 2 MARKS

Solve $12x=156$.

Chapter 8: One-step and two-step equations

Q07 | 2 MARKS

Solve $14x=210$.

Q08 | 2 MARKS

Solve $16x=272$.

Chapter 8: One-step and two-step equations

Q09 | 3 MARKS

Solve $6x+7=19$. Show inverse operations in order and verify by substitution.

Q10 | 3 MARKS

Solve $7x+7=77$. Show inverse operations in order and verify by substitution.

Chapter 8: One-step and two-step equations

Q11 | 4 MARKS

Solve $3x+3=9$. Show inverse operations in order and verify by substitution.

Q12 | 5 MARKS

You must show your working.

Solve $4x+3=43$. Show inverse operations in order and verify by substitution.

Worked solutions

Q01 | 1 MARK

$x=3$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q02 | 1 MARK

$x=5$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q03 | 1 MARK

$x=7$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q04 | 2 MARKS

$x=9$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q05 | 2 MARKS

$x=11$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q06 | 2 MARKS

$x=13$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q07 | 2 MARKS

$x=15$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q08 | 2 MARKS

$x=17$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q09 | 3 MARKS

Subtract 7: $6x=12$. Divide by 6: $x=2$. Check: $6(2)+7=19$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q10 | 3 MARKS

Subtract 7: $7x=70$. Divide by 7: $x=10$. Check: $7(10)+7=77$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q11 | 4 MARKS

Subtract 3: $3x=6$. Divide by 3: $x=2$. Check: $3(2)+3=9$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q12 | 5 MARKS

Subtract 3: $4x=40$. Divide by 4: $x=10$. Check: $4(10)+3=43$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Chapter completion record

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FOUNDATION TIER

UNIT 2 | CHAPTER 9

Equations with brackets and unknowns on both sides

12 curated questions | complete solutions

Chapter focus

Expansion, collection and maintaining balance

Assessment progression

Questions 1-4 build secure Foundation fluency; Questions 5-8 develop connected methods; Questions 9-12 reach Grade 4-5 reasoning.

You must show your working for every question worth 5 marks or more.

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Chapter 9: Equations with brackets and unknowns on both sides

Q01 | 1 MARK

Solve $x+2=3$.

Q02 | 1 MARK

Solve $x+4=5$.

Chapter 9: Equations with brackets and unknowns on both sides

Q03 | 1 MARK

Solve $x+6=7$.

Q04 | 2 MARKS

Solve $2(x+8)=34$.

Chapter 9: Equations with brackets and unknowns on both sides

Q05 | 2 MARKS

Solve $2(x+10)=42$.

Q06 | 2 MARKS

Solve $2(x+12)=50$.

Chapter 9: Equations with brackets and unknowns on both sides

Q07 | 2 MARKS

Solve $2(x+14)=58$.

Q08 | 2 MARKS

Solve $2(x+16)=66$.

Chapter 9: Equations with brackets and unknowns on both sides

Q09 | 3 MARKS

Solve $6(x+1)=5x+9$. Expand, collect x-terms and check the solution.

Q10 | 3 MARKS

Solve $7(x+3)=6x+24$. Expand, collect x-terms and check the solution.

Chapter 9: Equations with brackets and unknowns on both sides

Q11 | 4 MARKS

Solve $3(x+1)=2x+8$. Expand, collect x-terms and check the solution.

Q12 | 5 MARKS

You must show your working.

Solve $4(x+3)=3x+17$. Expand, collect x-terms and check the solution.

Worked solutions

Q01 | 1 MARK

$x=1$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q02 | 1 MARK

$x=1$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q03 | 1 MARK

$$x=1.$$

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q04 | 2 MARKS

$$x+8=17, \text{ so } x=9.$$

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q05 | 2 MARKS

$x+10=21$, so $x=11$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q06 | 2 MARKS

$x+12=25$, so $x=13$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q07 | 2 MARKS

$x+14=29$, so $x=15$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q08 | 2 MARKS

$x+16=33$, so $x=17$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q09 | 3 MARKS

$6x+6=5x+9$; $x=3$. Hence $x=3$. Substitution makes both sides equal.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q10 | 3 MARKS

$7x+21=6x+24$; $x=3$. Hence $x=3$. Substitution makes both sides equal.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q11 | 4 MARKS

$3x+3=2x+8$; $x=5$. Hence $x=5$. Substitution makes both sides equal.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q12 | 5 MARKS

$4x+12=3x+17$; $x=5$. Hence $x=5$. Substitution makes both sides equal.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Chapter completion record

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FOUNDATION TIER

UNIT 2 | CHAPTER 10

Rearranging simple formulae

12 curated questions | complete solutions

Chapter focus

Changing the subject through inverse operations

Assessment progression

Questions 1-4 build secure Foundation fluency; Questions 5-8 develop connected methods; Questions 9-12 reach Grade 4-5 reasoning.

You must show your working for every question worth 5 marks or more.

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Chapter 10: Rearranging simple formulae

Q01 | 1 MARK

Make x the subject of $y=x+2$.

Q02 | 1 MARK

Make x the subject of $y=x+4$.

Chapter 10: Rearranging simple formulae

Q03 | 1 MARK

Make x the subject of $y = x + 6$.

Q04 | 2 MARKS

Make x the subject of $y = 8x$.

Chapter 10: Rearranging simple formulae

Q05 | 2 MARKS

Make x the subject of $y=10x$.

Q06 | 2 MARKS

Make x the subject of $y=12x$.

Chapter 10: Rearranging simple formulae

Q07 | 2 MARKS

Make x the subject of $y=14x$.

Q08 | 2 MARKS

Make x the subject of $y=16x$.

Chapter 10: Rearranging simple formulae

Q09 | 3 MARKS

Make x the subject of $y=6x+21$. Then use your rearranged formula to find x when $y=57$.

Q10 | 3 MARKS

Make x the subject of $y=7x+29$. Then use your rearranged formula to find x when $y=78$.

Chapter 10: Rearranging simple formulae

Q11 | 4 MARKS

Make x the subject of $y=3x+39$. Then use your rearranged formula to find x when $y=48$.

Q12 | 5 MARKS

You must show your working.

Make x the subject of $y=4x+47$. Then use your rearranged formula to find x when $y=63$.

Worked solutions

Q01 | 1 MARK

$$x=y-2.$$

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q02 | 1 MARK

$$x=y-4.$$

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q03 | 1 MARK

$$x=y-6.$$

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q04 | 2 MARKS

$$x=y/8.$$

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q05 | 2 MARKS

$$x=y/10.$$

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q06 | 2 MARKS

$$x=y/12.$$

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q07 | 2 MARKS

$$x=y/14.$$

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q08 | 2 MARKS

$$x=y/16.$$

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q09 | 3 MARKS

$y-21=6x$, so $x=(y-21)/6$. Substitution gives $x=(57-21)/6=6$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q10 | 3 MARKS

$y-29=7x$, so $x=(y-29)/7$. Substitution gives $x=(78-29)/7=7$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q11 | 4 MARKS

$y-39=3x$, so $x=(y-39)/3$. Substitution gives $x=(48-39)/3=3$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q12 | 5 MARKS

$y-47=4x$, so $x=(y-47)/4$. Substitution gives $x=(63-47)/4=4$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

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FOUNDATION TIER

UNIT 2 | CHAPTER 11

Linear inequalities

12 curated questions | complete solutions

Chapter focus

Solving, integer solutions and number-line representation

Assessment progression

Questions 1-4 build secure Foundation fluency; Questions 5-8 develop connected methods; Questions 9-12 reach Grade 4-5 reasoning.

You must show your working for every question worth 5 marks or more.

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Chapter 11: Linear inequalities

Q01 | 1 MARK

Write the greatest integer satisfying $x < 2$.

Q02 | 1 MARK

Write the greatest integer satisfying $x < 4$.

Chapter 11: Linear inequalities

Q03 | 1 MARK

Write the greatest integer satisfying $x \leq 6$.

Q04 | 2 MARKS

Solve $x + 8 \leq 17$.

Chapter 11: Linear inequalities

Q05 | 2 MARKS

Solve $x + 10 < 21$.

Q06 | 2 MARKS

Solve $x + 12 < 25$.

Chapter 11: Linear inequalities

Q07 | 2 MARKS

Solve $x + 14 < 29$.

Q08 | 2 MARKS

Solve $x + 16 < 33$.

Chapter 11: Linear inequalities

Q09 | 3 MARKS

Solve $6x - 7 \leq 11$. List the integer solutions satisfying $-2 \leq x \leq 10$ and represent the endpoint correctly.

Q10 | 3 MARKS

Solve $7x - 7 \leq 70$. List the integer solutions satisfying $-2 \leq x \leq 10$ and represent the endpoint correctly.

Chapter 11: Linear inequalities

Q11 | 4 MARKS

Solve $3x - 3 \leq 6$. List the integer solutions satisfying $-2 \leq x \leq 10$ and represent the endpoint correctly.

Q12 | 5 MARKS

You must show your working.

Solve $4x - 3 \leq 41$. List the integer solutions satisfying $-2 \leq x \leq 10$ and represent the endpoint correctly.

Worked solutions

Q01 | 1 MARK

1.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q02 | 1 MARK

3.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q03 | 1 MARK

5.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q04 | 2 MARKS

$x \leq 9$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q05 | 2 MARKS

x<11.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q06 | 2 MARKS

x<13.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q07 | 2 MARKS

$x \leq 15$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q08 | 2 MARKS

$x \leq 17$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q09 | 3 MARKS

Add 7, then divide by positive 6: $x \leq 3$. Required integers: [-2, -1, 0, 1, 2, 3]. Use a filled endpoint at 3 because equality is included.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q10 | 3 MARKS

Add 7, then divide by positive 7: $x \leq 11$. Required integers: [-2, -1, 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10]. Use a filled endpoint at 11 because equality is included.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q11 | 4 MARKS

Add 3, then divide by positive 3: $x \leq 3$. Required integers: [-2, -1, 0, 1, 2, 3]. Use a filled endpoint at 3 because equality is included.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q12 | 5 MARKS

Add 3, then divide by positive 4: $x \leq 11$. Required integers: [-2, -1, 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10]. Use a filled endpoint at 11 because equality is included.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

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FOUNDATION TIER

UNIT 2 | CHAPTER 12

Linear sequences

12 curated questions | complete solutions

Chapter focus

Term-to-term rules, n th terms and membership tests

Assessment progression

Questions 1-4 build secure Foundation fluency; Questions 5-8 develop connected methods; Questions 9-12 reach Grade 4-5 reasoning.

You must show your working for every question worth 5 marks or more.

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Chapter 12: Linear sequences

Q01 | 1 MARK

Write the next term: 2, 5, 8, ...

Q02 | 1 MARK

Write the next term: 4, 7, 10, ...

Chapter 12: Linear sequences

Q03 | 1 MARK

Write the next term: 6, 9, 12, ...

Q04 | 2 MARKS

Find the n th term of 8, 11, 14, ...

Chapter 12: Linear sequences

Q05 | 2 MARKS

Find the n th term of 10, 13, 16, ...

Q06 | 2 MARKS

Find the n th term of 12, 15, 18, ...

Chapter 12: Linear sequences

Q07 | 2 MARKS

Find the n th term of 14, 17, 20, ...

Q08 | 2 MARKS

Find the n th term of 16, 19, 22, ...

Chapter 12: Linear sequences

Q09 | 3 MARKS

An arithmetic sequence begins 5, 11, 17, ... Find its n th term and decide whether 59 is a term. Give the term number if it is.

Q10 | 3 MARKS

An arithmetic sequence begins 13, 20, 27, ... Find its n th term and decide whether 76 is a term. Give the term number if it is.

Chapter 12: Linear sequences

Q11 | 4 MARKS

An arithmetic sequence begins 5, 8, 11, ... Find its n th term and decide whether 32 is a term. Give the term number if it is.

Q12 | 5 MARKS

You must show your working.

An arithmetic sequence begins 13, 17, 21, ... Find its n th term and decide whether 49 is a term. Give the term number if it is.

Worked solutions

Q01 | 1 MARK

11.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q02 | 1 MARK

13.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q03 | 1 MARK

15.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q04 | 2 MARKS

$3n+5$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q05 | 2 MARKS

$3n+7$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q06 | 2 MARKS

$3n+9$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q07 | 2 MARKS

$3n+11$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q08 | 2 MARKS

$3n+13$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q09 | 3 MARKS

Difference=6, so nth term= $6n+-1$. Solve $6n+-1=59$: $n=10$, a positive integer. Therefore it is term 10.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q10 | 3 MARKS

Difference=7, so nth term= $7n+6$. Solve $7n+6=76$: $n=10$, a positive integer. Therefore it is term 10.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q11 | 4 MARKS

Difference=3, so nth term= $3n+2$. Solve $3n+2=32$: $n=10$, a positive integer. Therefore it is term 10.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q12 | 5 MARKS

Difference=4, so nth term= $4n+9$. Solve $4n+9=49$: $n=10$, a positive integer. Therefore it is term 10.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

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FOUNDATION TIER

UNIT 2 | CHAPTER 13

Coordinates and geometric algebra

12 curated questions | complete solutions

Chapter focus

Points, midpoints, horizontal and vertical distances

Assessment progression

Questions 1-4 build secure Foundation fluency; Questions 5-8 develop connected methods; Questions 9-12 reach Grade 4-5 reasoning.

You must show your working for every question worth 5 marks or more.

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Chapter 13: Coordinates and geometric algebra

Q01 | 1 MARK

Write the coordinates of a point with $x=2$, $y=-3$.

Q02 | 1 MARK

Write the coordinates of a point with $x=4$, $y=-5$.

Chapter 13: Coordinates and geometric algebra

Q03 | 1 MARK

Write the coordinates of a point with $x=6$, $y=-7$.

Q04 | 2 MARKS

Find the midpoint of $(8,2)$ and $(12,6)$.

Chapter 13: Coordinates and geometric algebra

Q05 | 2 MARKS

Find the midpoint of (10,2) and (14,6).

Q06 | 2 MARKS

Find the midpoint of (12,2) and (16,6).

Chapter 13: Coordinates and geometric algebra

Q07 | 2 MARKS

Find the midpoint of (14,2) and (18,6).

Q08 | 2 MARKS

Find the midpoint of (16,2) and (20,6).

Chapter 13: Coordinates and geometric algebra

Q09 | 3 MARKS

For $A(0,2)$ and $B(6,6)$, find the midpoint, horizontal change and vertical change. Explain how these values locate the centre of the segment.

Q10 | 3 MARKS

For $A(1,4)$ and $B(7,8)$, find the midpoint, horizontal change and vertical change. Explain how these values locate the centre of the segment.

Chapter 13: Coordinates and geometric algebra

Q11 | 4 MARKS

For $A(-3,2)$ and $B(3,6)$, find the midpoint, horizontal change and vertical change. Explain how these values locate the centre of the segment.

Q12 | 5 MARKS

You must show your working.

For $A(-2,4)$ and $B(4,8)$, find the midpoint, horizontal change and vertical change. Explain how these values locate the centre of the segment.

Worked solutions

Q01 | 1 MARK

(2,-3).

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q02 | 1 MARK

(4,-5).

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q03 | 1 MARK

(6,-7).

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q04 | 2 MARKS

(10,4).

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q05 | 2 MARKS

(12,4).

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q06 | 2 MARKS

(14,4).

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q07 | 2 MARKS

(16,4).

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q08 | 2 MARKS

(18,4).

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q09 | 3 MARKS

Midpoint= $((0+6)/2, (2+6)/2)=(3,4)$. Horizontal change=6; vertical change=4. Half of each change from A reaches the midpoint.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q10 | 3 MARKS

Midpoint= $((1+7)/2, (4+8)/2)=(4,6)$. Horizontal change=6; vertical change=4. Half of each change from A reaches the midpoint.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q11 | 4 MARKS

Midpoint= $((-3+3)/2, (2+6)/2)=(0,4)$. Horizontal change=6; vertical change=4. Half of each change from A reaches the midpoint.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q12 | 5 MARKS

Midpoint= $((-2+4)/2, (4+8)/2)=(1,6)$. Horizontal change=6; vertical change=4. Half of each change from A reaches the midpoint.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Chapter completion record

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FOUNDATION TIER

UNIT 2 | CHAPTER 14

Straight-line graphs

12 curated questions | complete solutions

Chapter focus

Tables, plotting, gradient, intercept and equations $y=mx+c$

Assessment progression

Questions 1-4 build secure Foundation fluency; Questions 5-8 develop connected methods; Questions 9-12 reach Grade 4-5 reasoning.

You must show your working for every question worth 5 marks or more.

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Chapter 14: Straight-line graphs

Q01 | 1 MARK

State the gradient of $y=2x+3$.

Q02 | 1 MARK

State the gradient of $y=4x+5$.

Chapter 14: Straight-line graphs

Q03 | 1 MARK

State the gradient of $y=6x+7$.

Q04 | 2 MARKS

State the gradient and y-intercept of $y=8x-9$.

Chapter 14: Straight-line graphs

Q05 | 2 MARKS

State the gradient and y-intercept of $y=10x-11$.

Q06 | 2 MARKS

State the gradient and y-intercept of $y=12x-13$.

Chapter 14: Straight-line graphs

Q07 | 2 MARKS

State the gradient and y-intercept of $y=14x-15$.

Q08 | 2 MARKS

State the gradient and y-intercept of $y=16x-17$.

Chapter 14: Straight-line graphs

Q09 | 3 MARKS

For $y=4x-4$, state the gradient and intercept, calculate y when $x=2$, and give a second point that could be used to draw the line.

Q10 | 3 MARKS

For $y=2x+4$, state the gradient and intercept, calculate y when $x=4$, and give a second point that could be used to draw the line.

Chapter 14: Straight-line graphs

Q11 | 4 MARKS

For $y=2x-4$, state the gradient and intercept, calculate y when $x=2$, and give a second point that could be used to draw the line.

Q12 | 5 MARKS

You must show your working.

For $y=5x+4$, state the gradient and intercept, calculate y when $x=4$, and give a second point that could be used to draw the line.

Worked solutions

Q01 | 1 MARK

2.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q02 | 1 MARK

4.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q03 | 1 MARK

6.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q04 | 2 MARKS

Gradient 8; intercept -9.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q05 | 2 MARKS

Gradient 10; intercept -11.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q06 | 2 MARKS

Gradient 12; intercept -13.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q07 | 2 MARKS

Gradient 14; intercept -15.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q08 | 2 MARKS

Gradient 16; intercept -17.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q09 | 3 MARKS

Gradient=4; y-intercept=-4. At $x=2$, $y=4$. A second valid point is $(0,-4)$; plotting both and joining gives the line.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q10 | 3 MARKS

Gradient=2; y-intercept=4. At $x=4$, $y=12$. A second valid point is $(0,4)$; plotting both and joining gives the line.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q11 | 4 MARKS

Gradient=2; y-intercept=-4. At $x=2$, $y=0$. A second valid point is $(0,-4)$; plotting both and joining gives the line.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q12 | 5 MARKS

Gradient=5; y-intercept=4. At $x=4$, $y=24$. A second valid point is $(0,4)$; plotting both and joining gives the line.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

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FOUNDATION TIER

UNIT 2 | CHAPTER 15

Real-world graphs

12 curated questions | complete solutions

Chapter focus

Distance-time, conversion and piecewise graph interpretation

Assessment progression

Questions 1-4 build secure Foundation fluency; Questions 5-8 develop connected methods; Questions 9-12 reach Grade 4-5 reasoning.

You must show your working for every question worth 5 marks or more.

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Chapter 15: Real-world graphs

Q01 | 1 MARK

A distance-time graph is horizontal for 2 minutes. What does this mean?

Q02 | 1 MARK

A distance-time graph is horizontal for 4 minutes. What does this mean?

Chapter 15: Real-world graphs

Q03 | 1 MARK

A distance-time graph is horizontal for 6 minutes. What does this mean?

Q04 | 2 MARKS

A journey covers 72 km in 8 hours. Find the average speed.

Chapter 15: Real-world graphs

Q05 | 2 MARKS

A journey covers 110 km in 10 hours. Find the average speed.

Q06 | 2 MARKS

A journey covers 156 km in 12 hours. Find the average speed.

Chapter 15: Real-world graphs

Q07 | 2 MARKS

A journey covers 210 km in 14 hours. Find the average speed.

Q08 | 2 MARKS

A journey covers 272 km in 16 hours. Find the average speed.

Chapter 15: Real-world graphs

Q09 | 3 MARKS

A journey graph rises from 0 km to 240 km in 5 hours, is horizontal for 10 minutes, then returns 240 km in 6 hours. Find both travelling speeds and explain the horizontal section.

Q10 | 3 MARKS

A journey graph rises from 0 km to 320 km in 3 hours, is horizontal for 20 minutes, then returns 320 km in 4 hours. Find both travelling speeds and explain the horizontal section.

Chapter 15: Real-world graphs

Q11 | 4 MARKS

A journey graph rises from 0 km to 420 km in 3 hours, is horizontal for 10 minutes, then returns 420 km in 4 hours. Find both travelling speeds and explain the horizontal section.

Q12 | 5 MARKS

You must show your working.

A journey graph rises from 0 km to 500 km in 6 hours, is horizontal for 20 minutes, then returns 500 km in 7 hours. Find both travelling speeds and explain the horizontal section.

Worked solutions

Q01 | 1 MARK

The object is stationary.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q02 | 1 MARK

The object is stationary.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q03 | 1 MARK

The object is stationary.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q04 | 2 MARKS

9 km/h.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q05 | 2 MARKS

11 km/h.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q06 | 2 MARKS

13 km/h.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q07 | 2 MARKS

15 km/h.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q08 | 2 MARKS

17 km/h.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q09 | 3 MARKS

Outward speed= $240/5=48$ km/h. Return speed= $240/6=40$ km/h. The horizontal section means distance did not change, so the traveller stopped.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q10 | 3 MARKS

Outward speed= $320/3=320/3$ km/h. Return speed= $320/4=80$ km/h. The horizontal section means distance did not change, so the traveller stopped.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q11 | 4 MARKS

Outward speed= $420/3=140$ km/h. Return speed= $420/4=105$ km/h. The horizontal section means distance did not change, so the traveller stopped.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q12 | 5 MARKS

Outward speed= $500/6=250/3$ km/h. Return speed= $500/7=500/7$ km/h. The horizontal section means distance did not change, so the traveller stopped.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Chapter completion record

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FOUNDATION TIER

UNIT 2 | CHAPTER 16

Quadratics: expand, factorise and solve

12 curated questions | complete solutions

Chapter focus

Simple quadratic products, zero-product reasoning and roots

Assessment progression

Questions 1-4 build secure Foundation fluency; Questions 5-8 develop connected methods; Questions 9-12 reach Grade 4-5 reasoning.

You must show your working for every question worth 5 marks or more.

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Chapter 16: Quadratics: expand, factorise and solve

Q01 | 1 MARK

Solve $x(x-2)=0$.

Q02 | 1 MARK

Solve $x(x-4)=0$.

Chapter 16: Quadratics: expand, factorise and solve

Q03 | 1 MARK

Solve $x(x-6)=0$.

Q04 | 2 MARKS

Factorise x^2+8x .

Chapter 16: Quadratics: expand, factorise and solve

Q05 | 2 MARKS

Factorise x^2+10x .

Q06 | 2 MARKS

Factorise x^2+12x .

Chapter 16: Quadratics: expand, factorise and solve

Q07 | 2 MARKS

Factorise $x^2 + 14x$.

Q08 | 2 MARKS

Factorise $x^2 + 16x$.

Chapter 16: Quadratics: expand, factorise and solve

Q09 | 3 MARKS

Expand $(x+1)(x+3)$, then solve $x^2+4x+3=0$ by factorising. Check both roots.

Q10 | 3 MARKS

Expand $(x+3)(x+5)$, then solve $x^2+8x+15=0$ by factorising. Check both roots.

Chapter 16: Quadratics: expand, factorise and solve

Q11 | 4 MARKS

Expand $(x+1)(x+4)$, then solve $x^2+5x+4=0$ by factorising. Check both roots.

Q12 | 5 MARKS

You must show your working.

Expand $(x+3)(x+6)$, then solve $x^2+9x+18=0$ by factorising. Check both roots.

Worked solutions

Q01 | 1 MARK

$x=0$ or $x=2$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q02 | 1 MARK

$x=0$ or $x=4$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q03 | 1 MARK

$x=0$ or $x=6$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q04 | 2 MARKS

$x(x+8)$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q05 | 2 MARKS

$$x(x+10).$$

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q06 | 2 MARKS

$$x(x+12).$$

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q07 | 2 MARKS

$$x(x+14).$$

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q08 | 2 MARKS

$$x(x+16).$$

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q09 | 3 MARKS

Expansion gives x^2+4x+3 . Therefore $(x+1)(x+3)=0$, so $x=-1$ or $x=-3$. Each makes one factor zero.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q10 | 3 MARKS

Expansion gives $x^2+8x+15$. Therefore $(x+3)(x+5)=0$, so $x=-3$ or $x=-5$. Each makes one factor zero.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q11 | 4 MARKS

Expansion gives x^2+5x+4 . Therefore $(x+1)(x+4)=0$, so $x=-1$ or $x=-4$. Each makes one factor zero.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q12 | 5 MARKS

Expansion gives $x^2+9x+18$. Therefore $(x+3)(x+6)=0$, so $x=-3$ or $x=-6$. Each makes one factor zero.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Chapter completion record

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FOUNDATION TIER

UNIT 2 | CHAPTER 17

Simultaneous linear equations

12 curated questions | complete solutions

Chapter focus

Elimination, substitution and contextual interpretation

Assessment progression

Questions 1-4 build secure Foundation fluency; Questions 5-8 develop connected methods; Questions 9-12 reach Grade 4-5 reasoning.

You must show your working for every question worth 5 marks or more.

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Chapter 17: Simultaneous linear equations

Q01 | 1 MARK

Given $x+y=5$ and $x=2$, find y .

Q02 | 1 MARK

Given $x+y=9$ and $x=4$, find y .

Chapter 17: Simultaneous linear equations

Q03 | 1 MARK

Given $x+y=13$ and $x=6$, find y .

Q04 | 2 MARKS

Solve $x+y=17$ and $x-y=-1$.

Chapter 17: Simultaneous linear equations

Q05 | 2 MARKS

Solve $x+y=21$ and $x-y=-1$.

Q06 | 2 MARKS

Solve $x+y=25$ and $x-y=-1$.

Chapter 17: Simultaneous linear equations

Q07 | 2 MARKS

Solve $x+y=29$ and $x-y=-1$.

Q08 | 2 MARKS

Solve $x+y=33$ and $x-y=-1$.

Chapter 17: Simultaneous linear equations

Q09 | 3 MARKS

Solve simultaneously $x+y=9$ and $x-y=3$ by elimination. Substitute both values into both original equations to verify.

Q10 | 3 MARKS

Solve simultaneously $x+y=12$ and $x-y=2$ by elimination. Substitute both values into both original equations to verify.

Chapter 17: Simultaneous linear equations

Q11 | 4 MARKS

Solve simultaneously $x+y=6$ and $x-y=0$ by elimination. Substitute both values into both original equations to verify.

Q12 | 5 MARKS

You must show your working.

Solve simultaneously $x+y=9$ and $x-y=-1$ by elimination. Substitute both values into both original equations to verify.

Worked solutions

Q01 | 1 MARK

$y=3$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q02 | 1 MARK

$y=5$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q03 | 1 MARK

$y=7$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q04 | 2 MARKS

Adding gives $2x=16$; $x=8$, $y=9$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q05 | 2 MARKS

Adding gives $2x=20$; $x=10$, $y=11$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q06 | 2 MARKS

Adding gives $2x=24$; $x=12$, $y=13$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q07 | 2 MARKS

Adding gives $2x=28$; $x=14$, $y=15$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q08 | 2 MARKS

Adding gives $2x=32$; $x=16$, $y=17$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q09 | 3 MARKS

Add equations: $2x=12$, so $x=6$. Then $y=9-6=3$. Checks: $6+3=9$ and $6-3=3$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q10 | 3 MARKS

Add equations: $2x=14$, so $x=7$. Then $y=12-7=5$. Checks: $7+5=12$ and $7-5=2$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q11 | 4 MARKS

Add equations: $2x=6$, so $x=3$. Then $y=6-3=3$. Checks: $3+3=6$ and $3-3=0$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q12 | 5 MARKS

Add equations: $2x=8$, so $x=4$. Then $y=9-4=5$. Checks: $4+5=9$ and $4-5=-1$.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Chapter completion record

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FOUNDATION TIER

UNIT 2 | CHAPTER 18

Functions and Foundation graph families

12 curated questions | complete solutions

Chapter focus

Function machines, inverse operations and linear/quadratic graph recognition

Assessment progression

Questions 1-4 build secure Foundation fluency; Questions 5-8 develop connected methods; Questions 9-12 reach Grade 4-5 reasoning.

You must show your working for every question worth 5 marks or more.

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Chapter 18: Functions and Foundation graph families

Q01 | 1 MARK

If $f(x)=x+2$, find $f(3)$.

Q02 | 1 MARK

If $f(x)=x+4$, find $f(5)$.

Chapter 18: Functions and Foundation graph families

Q03 | 1 MARK

If $f(x)=x+6$, find $f(7)$.

Q04 | 2 MARKS

A function multiplies by 8, then adds 9. Find the output for input 2.

Chapter 18: Functions and Foundation graph families

Q05 | 2 MARKS

A function multiplies by 10, then adds 11. Find the output for input 2.

Q06 | 2 MARKS

A function multiplies by 12, then adds 13. Find the output for input 2.

Chapter 18: Functions and Foundation graph families

Q07 | 2 MARKS

A function multiplies by 14, then adds 15. Find the output for input 2.

Q08 | 2 MARKS

A function multiplies by 16, then adds 17. Find the output for input 2.

Chapter 18: Functions and Foundation graph families

Q09 | 3 MARKS

A function machine multiplies by 6, then adds 7. Write $f(x)$, find $f(1)$, and find the input when the output is 43. State the graph family.

Q10 | 3 MARKS

A function machine multiplies by 7, then adds 7. Write $f(x)$, find $f(3)$, and find the input when the output is 56. State the graph family.

Chapter 18: Functions and Foundation graph families

Q11 | 4 MARKS

A function machine multiplies by 3, then adds 3. Write $f(x)$, find $f(1)$, and find the input when the output is 12. State the graph family.

Q12 | 5 MARKS

You must show your working.

A function machine multiplies by 4, then adds 3. Write $f(x)$, find $f(3)$, and find the input when the output is 19. State the graph family.

Worked solutions

Q01 | 1 MARK

5.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q02 | 1 MARK

9.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q03 | 1 MARK

13.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q04 | 2 MARKS

25.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q05 | 2 MARKS

31.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q06 | 2 MARKS

37.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q07 | 2 MARKS

43.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q08 | 2 MARKS

49.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q09 | 3 MARKS

$f(x)=6x+7$. $f(1)=13$. Reverse subtracts 7, then divides by 6, giving input 6. Its graph is a straight line.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q10 | 3 MARKS

$f(x)=7x+7$. $f(3)=28$. Reverse subtracts 7, then divides by 7, giving input 7. Its graph is a straight line.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Worked solutions

Q11 | 4 MARKS

$f(x)=3x+3$. $f(1)=6$. Reverse subtracts 3, then divides by 3, giving input 3. Its graph is a straight line.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

Q12 | 5 MARKS

$f(x)=4x+3$. $f(3)=15$. Reverse subtracts 3, then divides by 4, giving input 4. Its graph is a straight line.

Credit a correct method and accurate progress; reserve the final mark for the required answer, justification or contextual conclusion.

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