NAME: ……

## Foundation/Higher GCSE Mathematics Revision Pack

## ALGEBRA – NON-CALC

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**Q1.** (a) Simplify $5bc + 2bc - 4bc$

.....

**(1)**

(b) Simplify $4x + 3y - 2x + 2y$

.....

**(2)**

(c) Simplify $m \times m \times m$

.....

**(1)**

(d) Simplify $3n \times 2p$

.....

**(1**

(e) Factorise $5m + 10$

.....

**(1)**
**(Total 6 marks)**

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**Q2.** (a) Simplify $8x - 4x$

.....

**(1)**

(b) Simplify $y \times y \times y$

.....

**(1)**

(c) Simplify $4x + 3y - 2x + 5y$

.....

**(2)**
**(Total 4 marks)**

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**Q3.** (a) Simplify $4p \times 5q$

.....

**(1)**

(b) Simplify $d \times d \times d \times d$

.....

**(1)**

(c) Expand $4(3a - 7)$

.....

**(2)**

(d) Expand and simplify $2(2n + 3) + 3(n + 1)$

.....

**(2)**

(e) Simplify $t \times t^2$

.....

**(1)**

(f) Simplify $m^5 \div m^3$

.....

**(1)**

**(Total 8 marks)**

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**Q4.** (a) Simplify $m + m + m + m + m + m$

.....

**(1)**

(b) Simplify $x^7 \times x^5$

.....

**(1)**

(c) Factorise $3y^2 + 2y$

.....

**(1)**

**(Total 3 marks)**

**Q5.** Here are the first 5 terms of an arithmetic sequence.

5 8 11 14 17

(a) Write down an expression, in terms of $n$, for the $n$th term of this sequence.

.....

**(2)**

The expression $3n^2 + 2$ is the $n$th term of another sequence.

(b) Find the 4th term of this sequence.

.....

**(2)**
**(Total 4 marks)**

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**Q6.** (a) Expand $x(3x - 5y)$

.....

**(2)**

(b) Factorise $x^2 - 36$

.....

**(1)**
**(Total 3 marks)**

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**Q7.** Here are the first four terms of an arithmetic sequence.

5 9 13 17

(a) What is the next term of this sequence?

.....

**(1)**

(b) Write down an expression, in terms of $n$, for the $n$th term of the sequence.

.....

**(2)**
**(Total 3 marks)**

---

**Q8.** $2x^2 = 72$

(a) Find a value of $x$.

.....

**(2)**

(b) Express 72 as a product of its prime factors.

.....

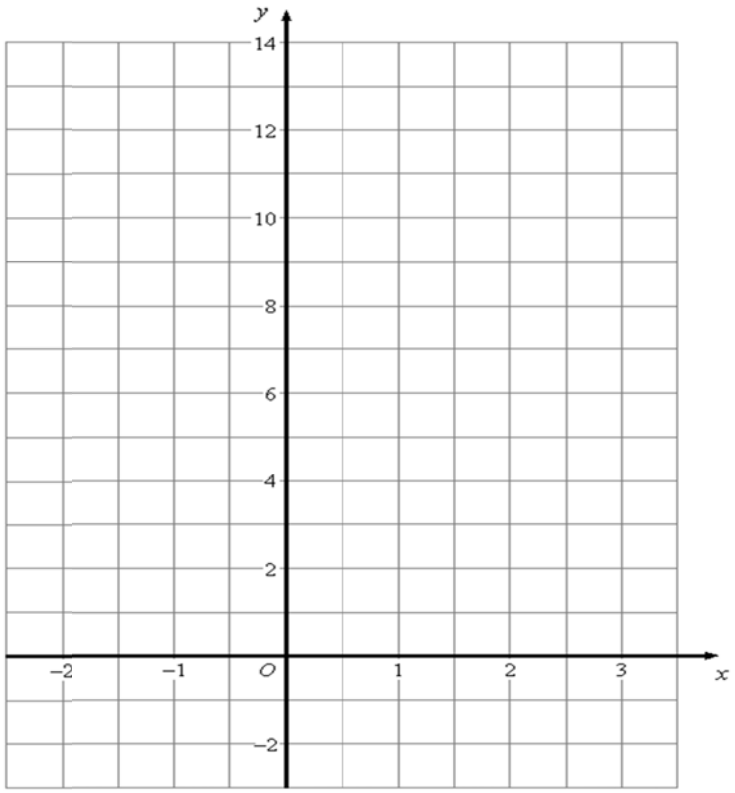
**(2)**
**(Total 4 marks)**

**Q9.** (a) Complete the table of values for $y = 3x + 4$

| $x$ | –2 | –1 | 0 | 1 | 2 | 3 |
|---|---|---|---|---|---|---|
| $y$ | | 1 | | | | 13 |

**(2)**

(b) On the grid, draw the graph of $y = 3x + 4$




**(2)**
**(Total 4 marks)**

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**Q10.** The first four terms of an arithmetic sequence are

6 11 16 21

Find an expression, in terms of $n$, for the $n$th term of the sequence.

.....

**(Total 2 marks)**

**Q11.** (a) Factorise fully $8p^2q + 12p$

.....

**(2)**

(b) Expand and simplify $5 - 2(m - 3)$

.....

**(2)**

**(Total 4 marks)**

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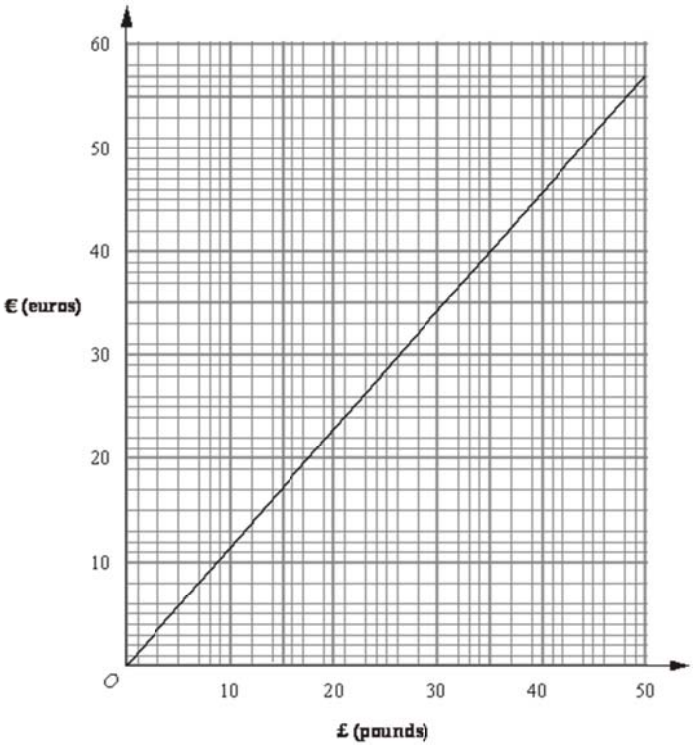
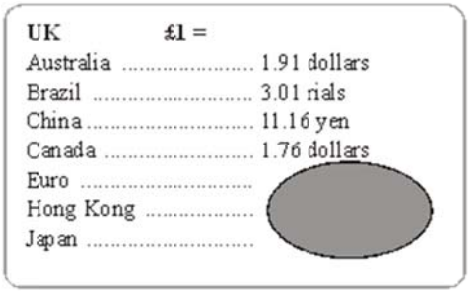
**Q12.** This is a graph that can be used to convert between £ (pounds) and € (euros).




This is part of a clipping from a newspaper showing the exchange rates for some countries.

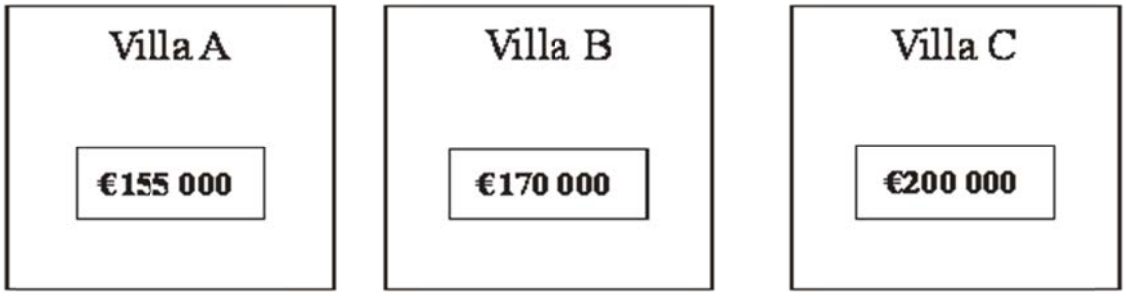



(a) The exchange rate for the euro has been smudged.
Find an estimate for the exchange rate for the euro.

.....

**(2)**

Ali wishes to buy a villa in Spain.
She has a budget of £150 000
In a brochure she sees these three villas.




(b) Which of these three villas can Ali afford to buy?
You must show your working.

.....

**(3)**
**(Total 5 marks)**

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**Q13.** (a) Solve $5p - 16 = 4$

$p$ = .....

**(2)**

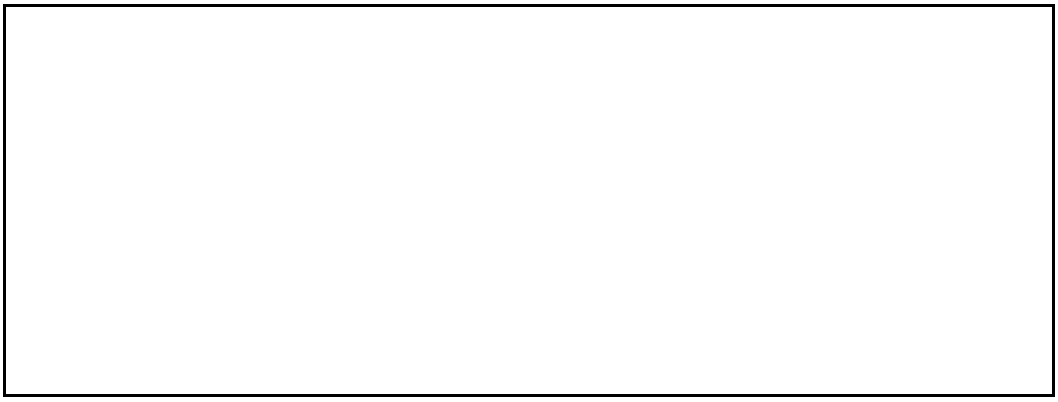
(b) Solve $2q - 4 = 5q + 5$

$q$ = .....

**(2)**

$y = 3(2x - 1) - 2(5 + 3x)$

(c) Find the value of $y$.



$y$ = .....

**(2)**

**(Total 6 marks)**

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**Q14.** (a) Simplify $5bc + 2bc - 4bc$

.....

**(1)**

(b) Simplify $4x + 3y - 2x + 2y$

.....

**(2)**

(c) Simplify $m \times m \times m$

.....

**(1)**

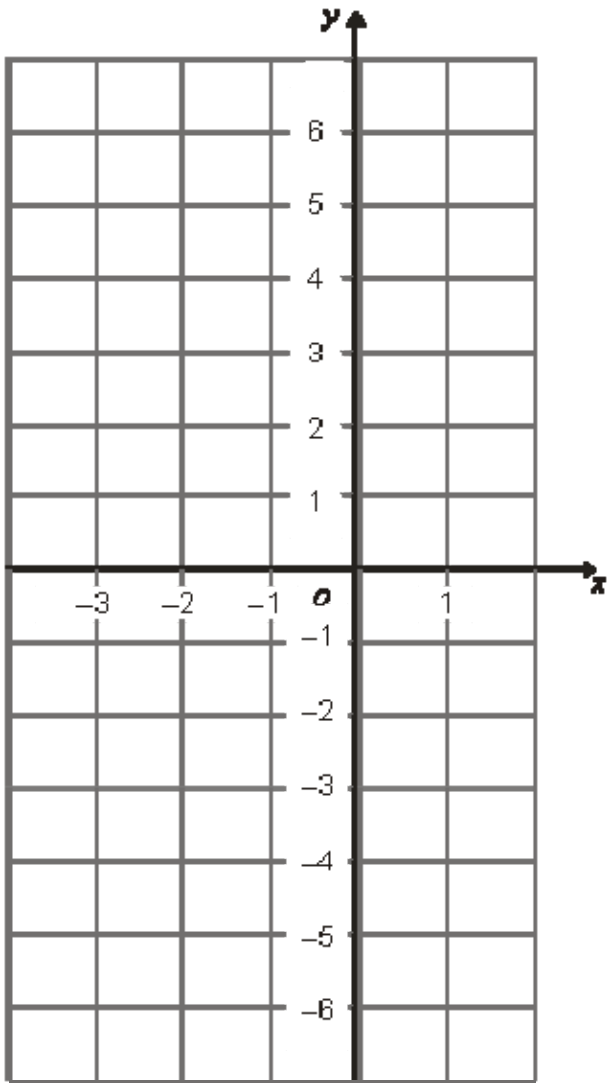
(d) Simplify $3n \times 2p$

.....

**(1)**

**(Total 5 marks)**

**Q15.** On the grid, draw the graph of $y = 2x + 3$ for values of $x$ from $x = -3$ to $x = 1$




**(Total 3 marks)**

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**Q16.** Sarah goes to the gym on her way to work.
The table shows what she wants to do before arriving at work.

| **Activity** | **Time (mins)** |
|---|---|
| Drive from home to gym | 10 |
| Exercise at gym | 45 |
| Shower and change | 20 |
| Drive from gym to work | 25 |

She has to arrive at work at 08 50

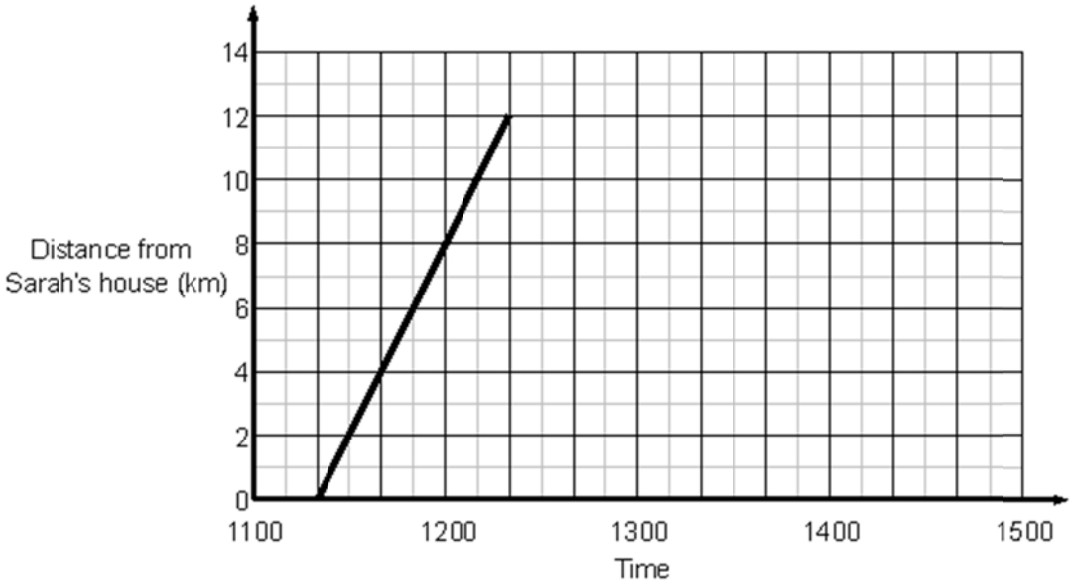
(a) What is the latest time she can leave home?

.....

**(3)**

Each Saturday, Sarah cycles from her house to the gym.

The travel graph shows Sarah's journey to the gym.




(b) What time does she leave home?

.....

**(1)**

(c) How far is the gym from Sarah's house?

..... km

**(1)**

Sarah stays at the gym for $1\frac{1}{2}$ hours.

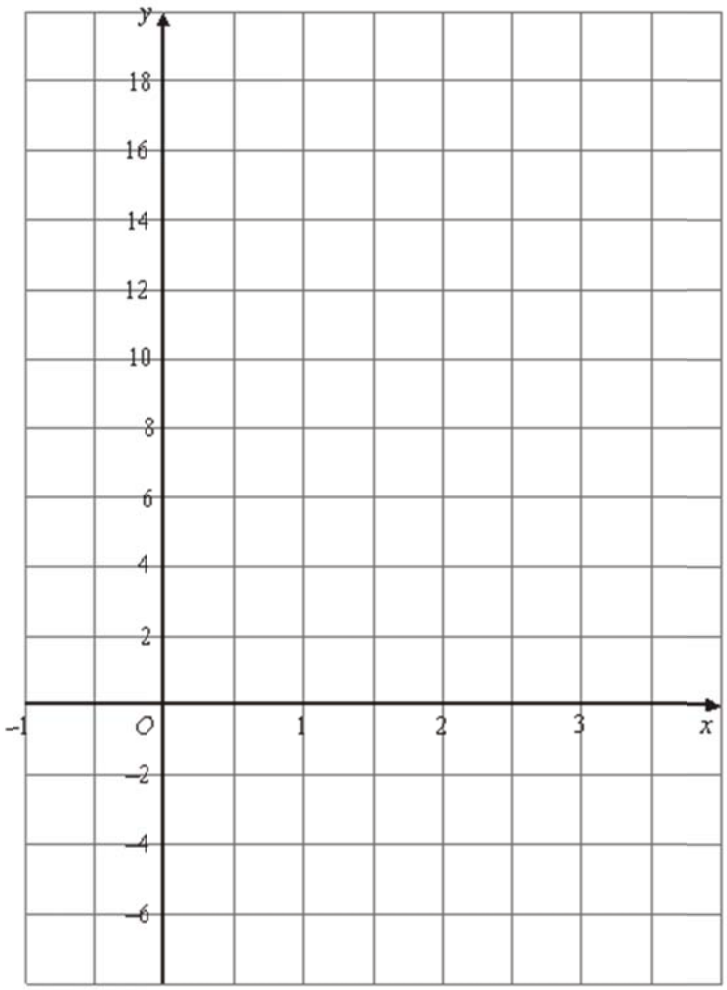
She then cycles back to her house at 18 km/h.

(d) Complete the travel graph.

**(3)**

**(Total 8 marks)**

**Q17.** On the grid, draw the graph of $y = 5x + 1$ from $x = -1$ to $x = 3$




**(Total 3 marks)**

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**Q18.** You can use this formula to change a temperature $C$, in °C, to a temperature $F$, in °F.

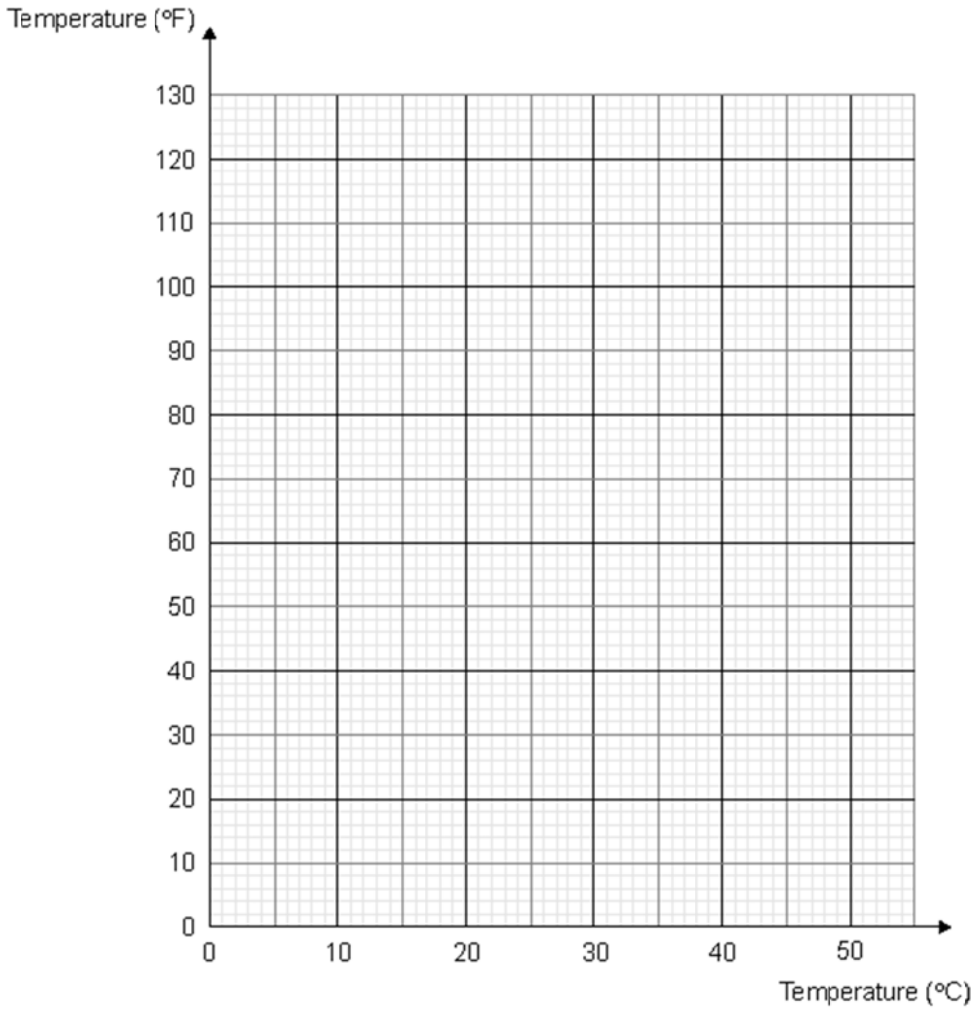
$$F = 1.8C + 32$$

(a) Use the formula to change 20°C into °F.

..... °F

**(2)**

(b) On the grid below, draw a conversion graph that can be used to change between temperatures in °C and temperatures in °F.




**(3)**

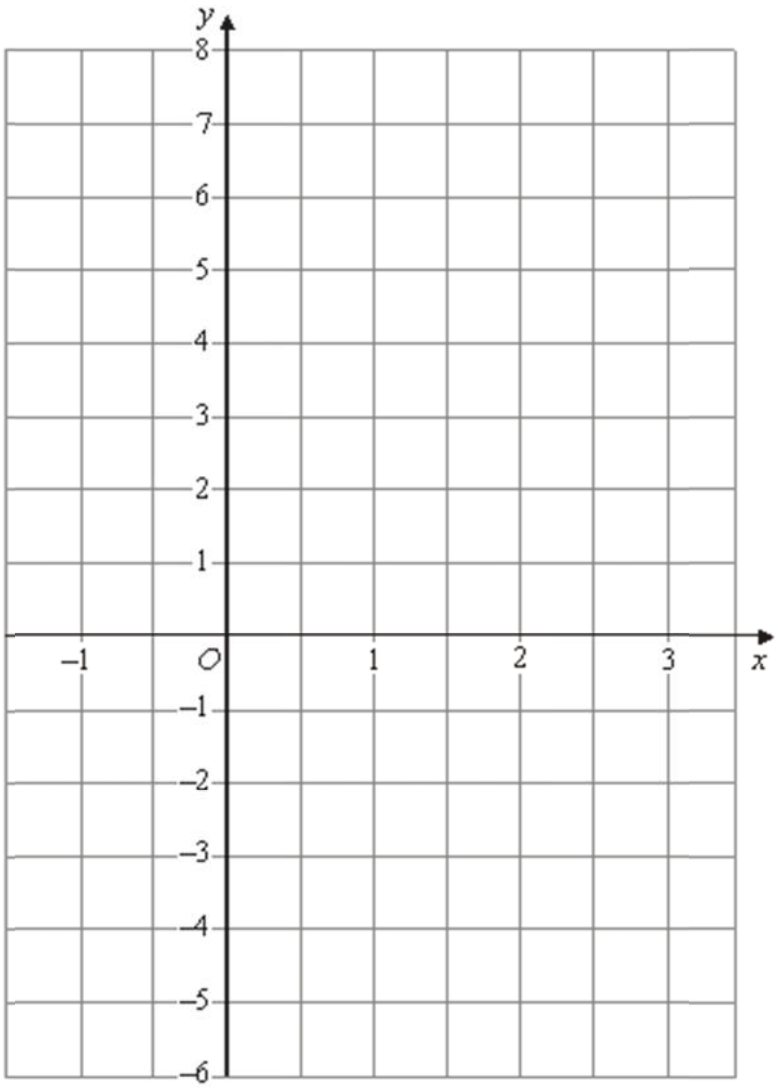
(c) Use your graph to change 100 °F into °C.

..... °C

**(1)**

**(Total 6 marks)**

**Q19.** Draw the graph of $y = 3x - 2$ for values of $x$ from –1 to 3.




**(Total 3 marks)**

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**Q20.** (a) Expand and simplify $3(2x + 3) + 2(x + 1)$.

.....

**(2)**

(b) Expand and simplify $(y – 3)(y + 4)$.

.....

**(2)**
**(Total 4 marks)**

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**Q21.**

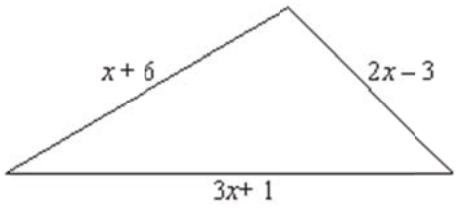


Diagram **NOT** accurately drawn

In the diagram, all measurements are in centimetres.

The lengths of the sides of the triangle are

$x + 6$
$2x - 3$
$3x + 1$

(a) Find an expression, in terms of $x$, for the perimeter of the triangle.

Give your expression in its simplest form.

.....

**(2)**

The perimeter of the triangle is 37 cm.

(b) Find the value of $x$.

$x =$ .....

**(2)**
**(Total 4 marks)**

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**Q22.** (a) Expand and simplify $4(2x + 5) + 2(3x - 2)$.

.....

**(2)**

(b) Factorise $y^2 - 4y$.

.....

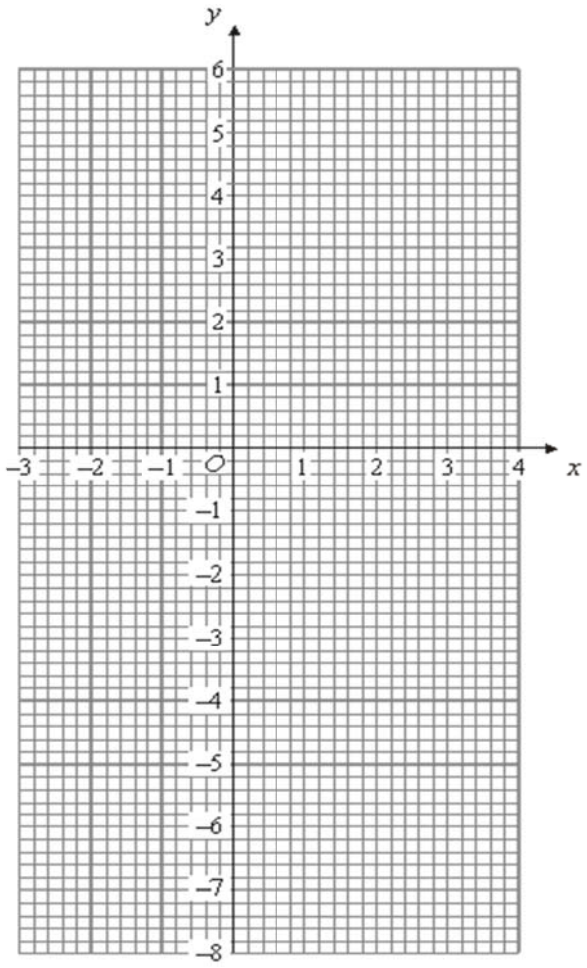
**(1)**
**(Total 3 marks)**

**Q23.** (a) Complete the table of values for $y = 2x - 3$

| $x$ | −2 | −1 | 0 | 1 | 2 | 3 |
|---|---|---|---|---|---|---|
| $y$ | −7 | | −3 | −1 | | 3 |

**(2)**

(b) On the grid, draw the graph of $y = 2x - 3$




**(2)**
**(Total 4 marks)**

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**Q24.** (a) Expand and simplify $4(2x + 5) + 2(3x - 2)$.

.....

**(2)**

(b) Expand and simplify $(X + 5)(X + 8)$.

.....

**(2)**
**(Total 4 marks)**

**Q25.** (a) Factorise $5x + 10$

.....

**(1)**

(b) Expand and simplify $(x - 3)(x + 5)$

.....

**(2)**

**(Total 3 marks)**

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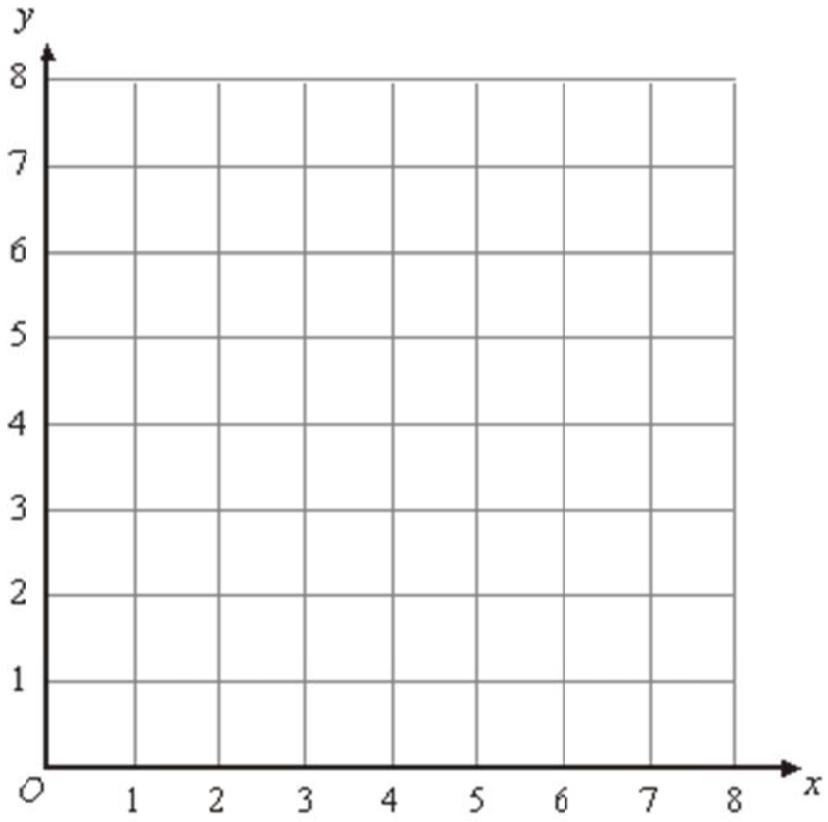
**Q26.** On the grid, draw the graph of $x + y = 6$

Use values of $x$ from $x = 0$ to $x = 6$




**(Total 3 marks)**

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**Q27.** Expand and simplify $(x + 4)(x - 3)$

.....

**(Total 2 marks)**

**Q28.** (a) Simplify fully $3x + 5y + 2x - 6y$

.....

**(2)**

(b) Simplify fully $\frac{2x}{4xy}$

.....

**(2)**

(c) Expand and simplify $\frac{1}{2}(2x - 6)$

.....

**(1)**

**(Total 5 marks)**

---

**Q29.** (a) Simplify $t^4 \times t^6$

.....

**(1)**

(b) Simplify $(x^4)^3$

.....

**(1)**

**(Total 2 marks)**

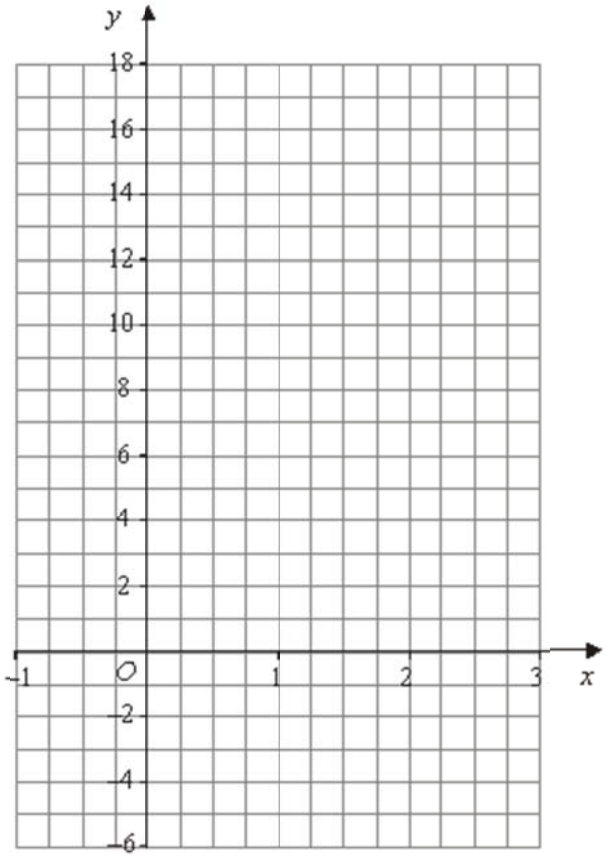
---

**Q30.** (a) Complete the table of values for $y = 5x + 1$

| $x$ | −1 | 0 | 1 | 2 | 3 |
|---|---|---|---|---|---|
| $y$ | | 1 | | | 16 |

**(2)**

(b) On the grid, draw the graph of $y = 5x + 1$




**(2)**
**(Total 4 marks)**

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**Q31.** (i) Simplify $13x - 24y + 17x + 14y$

.....

(ii) Solve $6(1 - 2x) - 3(x + 1) = 0$

.....

**(Total 5 marks)**

**Q32.** (a) Expand $2(3c - 2)$

.....

**(1)**

(b) Factorise $xy + 3x$

.....

**(1)**
**(Total 2 marks)**

---

**Q33.** (a) Simplify $8e - 3f - e - 3f$

.....

**(2)**

(b) Expand $2(3c - 2)$

.....

**(1)**

(c) Factorise $xy + 3x$

.....

**(1)**
**(Total 4 marks)**

---

**Q34.** This rule is used to work out the total cost, in pounds, of hiring a carpet cleaner.

Multiply the number of days' hire by 4

Add 6 to your answer

Peter hires a carpet cleaner.
The total cost is £18

(a) Work out for how many days he hires the carpet cleaner.

..... days

**(2)**

(b) Write down an expression, in terms of $n$, for the total cost, in pounds, of hiring a carpet cleaner for $n$ days.

.....

**(2)**
**(Total 4 marks)**

**Q35.** $-2 \leq x < 3$

$x$ is an integer.

Write down all the possible values of $x$.

.....

**(Total 2 marks)**

---

**Q36.** David buys some stamps.
Each stamp costs 25p.
The total cost of the stamps is £3

(a) Work out the number of stamps David buys.

.....

**(2)**

Adam, Barry and Charlie each buy some stamps.
Adam buys $x$ stamps.
Barry buys three times as many stamps as Adam.

(b) Write down an expression, in terms of $x$, for the number of stamps Barry buys.

.....

**(1)**

Charlie buys 5 more stamps than Adam.

(c) Write down an expression, in terms of $x$, for the number of stamps Charlie buys.

.....

**(1)**
**(Total 4 marks)**

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**Q37.** (a) Simplify $d + d + d + d + d$

.....

**(1)**

(b) Simplify $y^2 + y^2$

.....

**(1)**

(c) Expand $4(3a - 7)$

.....

**(2)**

(d) Simplify $t \times t^2$

.....

**(1)**

(e) Simplify $m^5 \div m^3$

.....

**(1)**

**(Total 6 marks)**

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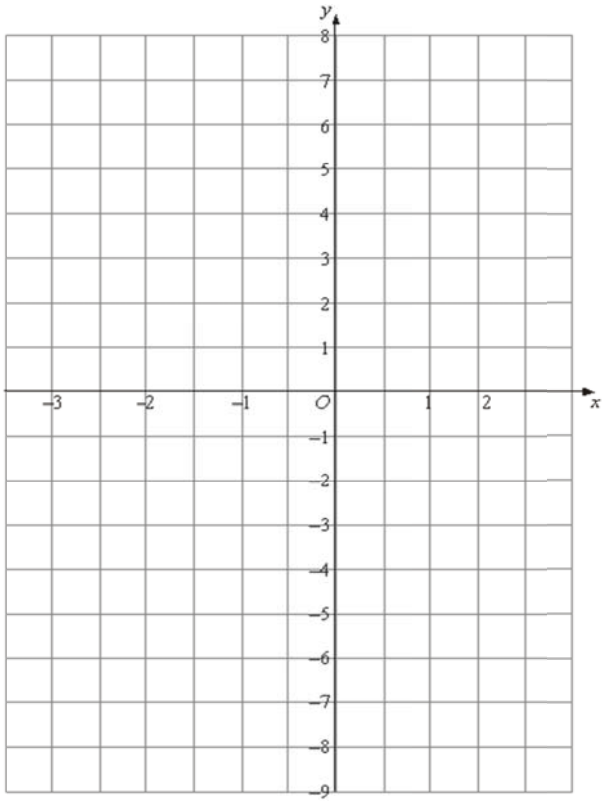
**Q38.** (a) Complete the table of values for $y = 3x + 1$

| $x$ | –3 | –2 | –1 | 0 | 1 | 2 |
|---|---|---|---|---|---|---|
| $y$ | –8 | | –2 | | | |

**(2)**

(b) On the grid, draw the graph of $y = 3x + 1$




**(2)**
**(Total 4 marks)**

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**Q39.** $v^2 = u^2 + 2as$

$u = 6$
$a = 2.5$
$s = 9$

(a) Work out a value of $v$.

$v$ = .....

**(3)**

(b) Make $s$ the subject of the formula $v^2 = u^2 + 2as$

$s$ = .....

**(2)**
**(Total 5 marks)**

**Q40.** $-2 < n \leq 4$

$n$ is an integer.

(a) Write down all the possible values of $n$.

.....

**(2)**

(b) Solve the inequality $6x - 3 < 9$

.....

**(2)**

**(Total 4 marks)**

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**Q41.** (a) Factorise $5m + 10$

.....

**(1)**

(b) Factorise $y^2 - 3y$

.....

**(1)**

**(Total 2 marks)**

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**Q42.**

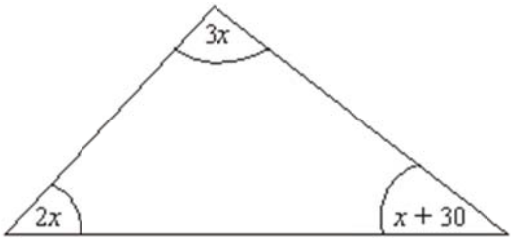



Diagram **NOT** accurately drawn

The diagram shows a triangle.
The sizes of the angles, in degrees, are

$3x$, $2x$, $x + 30$

Work out the value of $x$.

$x =$ .....

**(Total 3 marks)**

**Q43.** $P = 4k - 10$

$P = 50$

(a) Work out the value of $k$.

.....

**(2)**

$y = 4n - 3d$

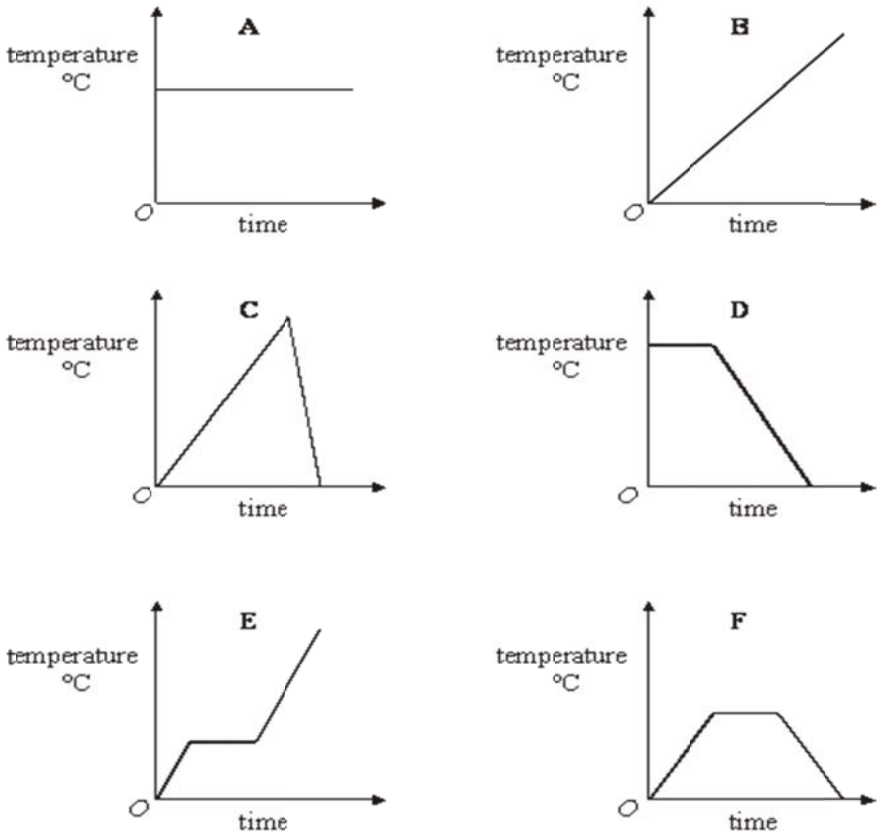
$n = 2$
$d = 5$

(b) Work out the value of $y$.

.....

**(2)**
**(Total 4 marks)**

**Q44.** Here are six temperature/time graphs.




Each sentence in the table describes one of the graphs.
Write the letter of the correct graph next to each sentence.

The first one has been done for you.

| | |
|---|---|
| The temperature starts at 0°C and keeps rising. | **B** |
| The temperature stays the same for a time and then falls. | |
| The temperature rises and then falls quickly. | |
| The temperature is always the same. | |
| The temperature rises, stays the same for a time and then falls. | |
| The temperature rises, stays the same for a time and then rises again. | |

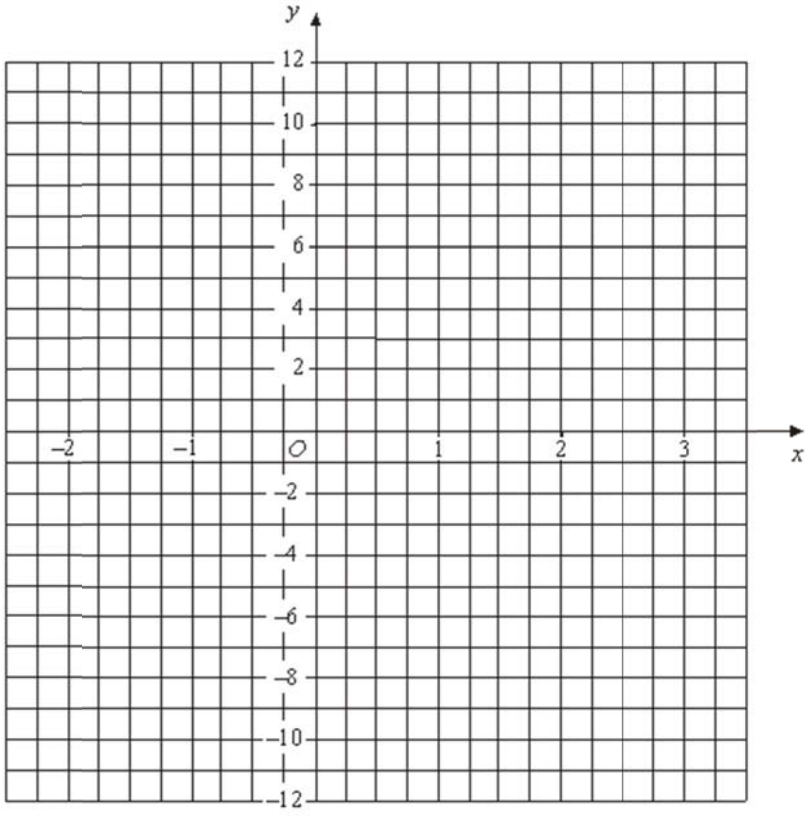
**(Total 3 marks)**

**Q45.** (a) Complete the table of values for $y = 4x - 3$

| $x$ | −2 | −1 | 0 | 1 | 2 | 3 |
|---|---|---|---|---|---|---|
| $y$ | −11 | | −3 | | | 9 |

**(2)**

(b) On the grid, draw the graph of $y = 4x - 3$, for values of $x$ from –2 to 3




**(2)**
**(Total 4 marks)**

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**Q46.** (a) Simplify $4x + 3y - 2x + 5y$

.....

**(2)**

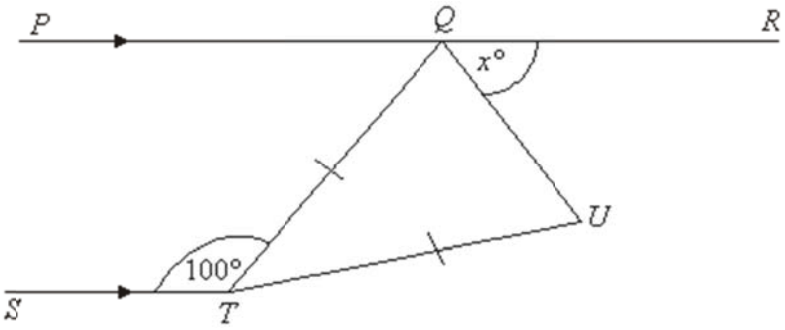
Compasses cost $c$ pence each.
Rulers cost $r$ pence each.

(b) Write down an expression for the total cost, in pence, of 2 compasses and 4 rulers.

..... pence

**(2)**
**(Total 4 marks)**

**Q47.**




*PQR* is a straight line parallel to *ST.*
*QT* = *UT*
Angle *STQ* = 100°.

Prove that angle *QTU* = (2*x* – 20)°.

**(Total 5 marks)**

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**Q48.**

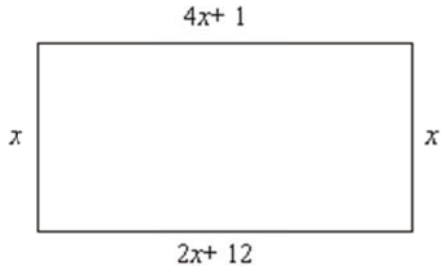


Diagram **NOT** accurately drawn

The diagram shows a rectangle.
All the measurements are in centimetres.

(a) Explain why $4x + 1 = 2x + 12$

.....
..

**(1)**

(b) Solve $4x + 1 = 2x + 12$

$x$ = .....

**(2)**

(c) Use your answer to part (b) to work out the perimeter of the rectangle.

..... cm

**(2)**

**(Total 5 marks)**

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**Q49.** (a) Solve $4x + 1 = 9$

$x =$ .....

**(2)**

(b) Solve $2y - 1 = 12$

$y =$ .....

**(2)**

**(Total 4 marks)**

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**Q50.** Compasses cost *c* pence each.
Rulers cost *r* pence each.

Write down an expression for the total cost, in pence, of 2 compasses and 4 rulers.

..... pence

**(Total 2 marks)**

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**Q51.** The *n*th term of a sequence is $2n^2$

(i) Find the 4th term of the sequence.

.....

(ii) Is the number 400 a term of the sequence?

.....

Give reasons for your answer.

**(Total 3 marks)**

**M1.**

| | Answer | Mark | Additional Guidance |
|---|---|---|---|
| (a) | $3bc$ | 1 | **B1** for $3bc$ (accept $3cb$ or $bc3$ or $cb3$ or $3 \times b \times c$ oe, but $7bc - 4bc$ gets 0) |
| (b) | $2x + 5y$ | 2 | **B2** for $2x + 5y$ (accept $x2 + y5$ or $2 \times x + 5 \times y$ or $x \times 2 + y \times 5$)<br>[**B1** for $2x$ or $5y$ seen; accept $2 \times x$, $x2$, $5 \times y$, $y5$, etc.] |
| (c) | $m^3$ | 1 | **B1** cao |
| (d) | $6np$ | 1 | **B1** for $6np$ oe (accept $6pn$, $np6$, $pn6$ but NOT $6 \times p \times n$) |
| (e) | $5(m + 2)$ | 1 | **B1** for $5(m + 2)$ or $5(2 + m)$. Accept $(5 – 0)(m + 2)$ or $(3 + 2)(m + 2)$ |
| | | | **Total for Question: 6 marks** |

**M2.**

| | Answer | Mark | Additional Guidance |
|---|---|---|---|
| (a) | $4x$ | 1 | **B1** for $4x$ (accept $4 \times x$, $x \times 4$, $x4$) |
| (b) | $y^3$ | 1 | **B1** cao |
| (c) | $2x + 8y$ | 2 | **B2** for $2x + 8y$ oe<br>[**B1** for $2x$ or $8y$ seen]<br>{Note: $-8y$ seen with no working gets B0<br>$4x + 2x = 6x$ gets B0} |
| | | | **Total for Question: 4 marks** |

**M3.**

| | Working | Answer | Mark | Additional Guidance |
|---|---|---|---|---|
| (a) | | $20pq$ | 1 | **B1** for $20pq$ oe |
| (b) | | $d^4$ | 1 | **B1** for $d^4$ cao |
| (c) | $4 \times 3a - 4 \times 7$ | $12a - 28$ | 2 | **M1** for $4 \times 3a$ or $4 \times 7$ or $12a$ or 28<br>**A1** for $12a - 28$ cao |
| (d) | $4n + 6 + 3n + 3$ | $7n + 9$ | 2 | **M1** for $4n + 6$ or $3n + 3$<br>**A1** for $7n + 9$ |
| (e) | | $t^3$ | 1 | **B1** for $t^3$ (accept $t^{1+2}$ oe) |
| (f) | | $m^2$ | 1 | **B1** for $m^2$<br>(accept $m^{5-3}$ oe) |
| | | | | **Total for Question: 8 marks** |

**M4.**

| | Answer | Mark | Additional Guidance |
|---|---|---|---|

| | | | |
|---|---|---|---|
| (a) | $6m$ | 1 | **B1** cao |
| (b) | $x^{12}$ | 1 | **B1** for $x^{12}$ or $x^{7+5}$ |
| (c) | $y(3y + 2)$ | 1 | **B1** cao |
| | | | **Total for Question: 3 marks** |

**M5.**

| | Working | Answer | Mark | Additional Guidance |
|---|---|---|---|---|
| (a) | | 3n + 2 | 2 | **B2** for 3n + 2 or equivalent<br>[B1 for 3n + k where k ≠ 2] |
| (b) | 3 × 2 4 + 2 = 3 × 16 + 2 = 48 + 2 | 50 | 2 | **M1** for $3 \times 4^2 + 2$ with a clear intention to square the 4 independent of the scalar 3<br>**A1** cao |
| | | | | **Total for Question: 4 marks** |

**M6.**

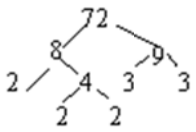
| | Answer | Mark | Additional Guidance |
|---|---|---|---|
| (a) | $3x^2 - 5xy$ | 2 | **B2** for $3x^2 - 5xy$<br>(**B1** for $3x^2$ or $5xy$ seen) |
| (b) | $(x - 6)(x + 6)$ | 1 | **B1** for $(x - 6)(x + 6)$ oe |
| | | | **Total for Question: 3 marks** |

**M7.**

| | Answer | Mark | Additional Guidance |
|---|---|---|---|
| (a) | 21 | 1 | **B1** cao |

| | | | |
|---|---|---|---|
| (b) | $4n + 1$ | 2 | **M1** for $4n + k$ ($k \neq 1$)<br>**A1** oe<br>NB $n = 4n + 1$ gets **M1** only. |
| | | | **Total for Question: 3 marks** |

**M8.**

| | Working | Answer | Mark | Additional Guidance |
|---|---|---|---|---|
| (a) | $x^2 = 72 \div 2$ | 6 | 2 | **M1** for 72 ÷ 2 or 36 seen<br>**A1** 6 or –6 or ± 6 |
| (b) | 72 = 2 × 36<br>= 2 × 2 × 18<br>= 2 × 2 × 2 × 9<br>  | 2 × 2 × 2 × 3 × 3 | 2 | **M1** for a systematic method of at least 2 correct divisions by a prime number oe factor tree or a full process with one calculation error; can be implied by digits 2, 2, 2, 3, 3 on answer line<br>**A1** for 2 × 2 × 2 × 3 × 3 or $2^3 \times 3^2$ oe<br>[Note 1 × 2 × 2 × 2 × 3 × 3 gets **M1 A0**] |
| | | | | **Total for Question: 4 marks** |

**M9.**

| | Answer | Mark | Additional Guidance |
|---|---|---|---|
| (a) | –2, (1), 4, 7, 10, (13) | 2 | **B2** for 4 values correct<br>(B1 for 2 or 3 values correct) |
| (b) | Single line from<br>(–2, –2) to (3, 13) | 2 | **M1** for plotting at least 5 of their points correctly<br>**OR**<br>single straight line with positive gradient passing thro' (0,4) from $x = -2$ to $x = 3$<br>**OR**<br>single straight line of gradient 3 from $x = -2$ to $x = 3$<br>**OR**<br>correct straight line that passes through 3 correct points<br>A1 cao for correct straight line from at least (–2,–2) to (3,13) |

| | |
|---|---|
| | **Total for Question: 4 marks** |

**M10.**

| Answer | Mark | Additional Guidance |
|---|---|---|
| $5n + 1$ | 2 | **B2** for $5n + 1$ oe<br>(**B1** for one of $5n$ + a) |
| | | **Total for Question: 2 marks** |

**M11.**

| | Working | Answer | Mark | Additional Guidance |
|---|---|---|---|---|
| (a) | | $4p(2pq + 3)$ | 2 | **B2** for $4p(2pq + 3)$<br>[B1 for $2p(2pq + 6)$ or 4 $(p^2q + 3p)$ or $p(4pq + 12)$ or $2(2p^2q + 6p)$] |
| (b) | $5 – 2(m – 3) = 5 – 2m + 6$ | $11 – 2m$ | 2 | **M1** for $5 – 2m + 6$<br>**A1** cao |
| | | | | **Total for Question: 4 marks** |

**M12.**

| | | Working | Answer | Mark | Additional Guidance |
|---|---|---|---|---|---|
| | (a) | | £1 = 1.15 euros | 2 | **M1** for reading off one of say £10, £20, £50, etc and dividing their result by 10, 20, 50, etc<br>**A1** for an answer in the range 1.05 to 1.25 inc. |
| **FE** | (b) | From graph, £15 = €17.25 | A – yes<br>B - yes or | 3 | **M1** for a suitable reading from the graph |

| | | | | | |
|---|---|---|---|---|---|
| | | £150000 = €172500<br>A – yes B - yes C - no<br><br>**OR**<br>From graph, €15.5 = £13.5, so €155000 = £135000<br>From graph, €17 = £14.8, so €170000 = £148000<br>From graph, €20 = £17.4, so €200000 = £174000<br><br>**OR**<br>£150000 × "answer to (a)"<br>= €172500<br>A – yes B – yes C – no<br><br>Without the use of a calculator, division by "(a)" is not likely | no<br>C - no | | **A1** for converting to euros (€172500 ± €2500)<br>**C1** for correct comparison to price of the villas<br>**OR**<br>**M1** for a suitable reading from the graph for the price of one of the villas<br>**A1** for converting to pounds (±£2000)<br>**C1** for correct comparison to price of the villas for their 'correct' conversions<br>**OR**<br>**M1** for £150000 × "answer to (a)"<br>**A1** for €172500 ± €2500<br>**C1** for correct comparison to price of the villas |
| | | | | | **Total for Question: 5 marks** |

**M13.**

| | Working | Answer | Mark | Additional Guidance |
|---|---|---|---|---|
| (a) | $5p = 20$ | 4 | 2 | **M1** add 16 to both sides<br>**A1** cao |
| (b) | $-4-5=5q-2q$ | –3 | 2 | **M1** for correct method isolate ± 3q<br>**A1** cao |
| (c) | $6x-3-10-6x=$ | –13 | 2 | **M1** at least one expansion correct<br>**A1** cao |

| | |
|---|---|
| | **Total for Question: 6 marks** |

**M14.**

| | Answer | Mark | Additional Guidance |
|---|---|---|---|
| (a) | $3bc$ | 1 | **B1** for $3bc$ (accept $3cb$ or $bc3$ or $cb3$ or $3 \times b \times c$ oe, but $7bc - 4bc$ gets no marks) |
| (b) | $2x + 5y$ | 2 | **B2** for $2x + 5y$ (accept $x2 + y5$ or $2 \times x + 5 \times y$ or $x \times 2 + y \times 5$)<br>[**B1** for $2x$ or $5y$ seen;<br>accept $2 \times x$, $x2$, $5 \times y$, $y5$, etc.] |
| (c) | $m^3$ | 1 | **B1** cao |
| (d) | $6np$ | 1 | **B1** for $6np$ oe (accept $6pn$, $np6$, $pn6$ but NOT $6 \times p \times n$) |
| | | | **Total for Question: 5 marks** |

**M15.**

| Working | Answer | Mark | Additional Guidance |
|---|---|---|---|
| <table><tr><td>$x$</td><td>–3</td><td>–2</td><td>–1</td><td>0</td><td>1</td></tr><tr><td>$y$</td><td>–3</td><td>–1</td><td>1</td><td>3</td><td>5</td></tr></table> | Line | 3 | **(Table of values)**<br>**M1** for at least 2 correct attempts to find points by substituting values of $x$.<br>**M1** ft for plotting at least 2 of their points (any points plotted from their table must be correct)<br>**A1** for correct line between –3 and 1<br>**(No table of values)**<br>**M2** for at least 2 correct points (and no incorrect points) plotted OR line segment of $2x + 3$ drawn (ignore any additional incorrect segments)<br>(**M1** for at least 3 correct points with no more than 2 incorrect points)<br>**A1** for correct line between –3 and 1<br>**(Use of $y = mx + c$)**<br>**M2** for at least 2 correct points (and no incorrect points) plotted OR line |

| | | | | |
|---|---|---|---|---|
| | | | | segment of $2x + 3$ drawn (ignore any additional incorrect segments)<br>(**M1** for line drawn with gradient of 2 OR line drawn with a $y$ intercept of 3 and a positive gradient)<br>**A1** for correct line between –3 and 1 |
| | | | | **Total for Question: 3 marks** |

**M16.**

| | Working | Answer | Mark | Additional Guidance |
|---|---|---|---|---|
| (a) | 10 + 45 + 20 + 25 = 10<br>1 hour 40 minutes | 07 10 | 3 | **M1** for 10 + 45 + 20 + 25 or 100 seen<br>**M1** for correct attempt to convert to hours and minutes<br>**A1** cao<br>**OR**<br>**M2** for clear attempt to subtract all times from 08 50 (may be seen as working backwards)<br>(M1 for clear attempt to take at least one time away from 08 50)<br>**A1** cao |
| (b) | | 11 20 | 1 | **B1** for 11 20 **or** twenty past eleven oe |
| (c) | | 12 | 1 | **B1** cao |
| (d) | | Straight line from (12 20, 12) to (13 50, 12) and from (13 50, 12) to (14 30, 0) | 3 | **M1** for straight line segment on graph<br>**M1** for straight line with negative segment<br>**A1** for correct graph<br>**or**<br>**M1** for straight line segment on graph<br>**M1** for 12 ÷ 18 oe or 40 minutes seen<br>**A1** for correct graph<br>SC: B2 for the correct straight line translated to left or right |
| | | | | **Total for Question: 8 marks** |

**M17.**

| Working | Answer | Mark | Additional Guidance |
|---|---|---|---|
| Table of values<br>$x$ = –<br>1 0 1 2 3<br>$y$ = – 4 1<br>6 11 16<br>**OR**<br>Using $y = mx + c$,<br>gradient = 5,<br>$y$- intercept = 1 | Single line from (– 1, – 4) to (3, 16) | 3 | **B3** for a correct single line from (–1, – 4) to (3, 16)<br>B2 for at least 3 correct points plotted and joined with line segments **OR** 3 correct points plotted two of which must be the extremes with no joining **OR** a single line of gradient 5 passing through (0, 1)<br>B1 for 2 correctly plotted points **OR** a single lie of gradient 5 OR a single line passing through (0, 1) |
| | | | **Total for Question: 3 marks** |

**M18.**

| | Working | Answer | Mark | Additional Guidance |
|---|---|---|---|---|
| (a) | | 68 | 2 | **M1** for $\frac{9}{5} \times 20 + 32$<br>**A1** cao |
| (b) | Table of values<br>10 20 30 40 50<br>50 68 86 104 122<br>**or**<br>Use $y = mx + c$<br>With $m = \frac{9}{5}$, $c = 32$ | Single line from (0, 32) to (50, 122) | 3 | **B3** for correct single straight line from (0, 32) to (50, 122)<br>[B2 for at least 3 points correctly plotted (ft from (a)) and joined with line segments **or** 3 correct points plotted two of which must be the extremes with no joining<br>**or** a single line of gradient $\frac{9}{5}$ passing through (0,32)<br>**B1** for 2 correctly plotted points ft from (a)<br>**or** a single line of gradient $\frac{9}{5}$<br>**or** a single line with positive gradient |

| | | | | |
|---|---|---|---|---|
| | | | | passing through (0,32)<br>**or** 2 correct pairs of values, may include (20,68) from (a) if correct] |
| (c) | | 37.8 | 1 | **B1** for answer in range 36 - 39<br>**or** ft from line drawn (± 2mm)<br>*NB : Whole question needs to be clipped together* |
| | | | | **Total for Question: 6 marks** |

**M19.**

| Working | | | | | | Answer | Mark | Additional Guidance |
|---|---|---|---|---|---|---|---|---|
| $x$ | –1 | 0 | 1 | 2 | 3 | Straight line | 3 | **M2** for two correct points plotted or a correct straight line which does not cover the range $x = -1$ to $x = 3$<br>(**M1** for one point correctly plotted or calculated or a straight line through one correct point)<br>**A1** for correct line between –1 and 3<br>**OR**<br>**M1** for line with correct gradient<br>**M1** for line with correct $y$ intercept<br>**A1** for correct line between –1 and 3 |
| $y$ | –5 | –2 | 1 | 4 | 7 | | | |
| | | | | | | | | **Total for Question: 3 marks** |

**M20.**

| | Working | Answer | Mark | Additional Guidance |
|---|---|---|---|---|
| (a) | $6x + 9 + 2x + 2$ = | $8x + 11$ | 2 | **M1** for $3 \times 2x + 3 \times 3$ or $2 \times x + 2 \times 1$ or $6x + 9$ or $2x + 2$ or $8x$ or 11<br>**A1** for $8x + 11$ cao |
| (b) | $y^2 + 4y - 3y - 12$ | $y^2 + y - 12$ | 2 | **M1** for 3 out of 4 terms of $y \times y + 4 \times y - 3 \times y - 3 \times 4$ correct including signs, or 4 terms excluding signs |

| | | | | |
|---|---|---|---|---|
| | | | | **A1** for $y^2 + y - 12$ or $y^2 + 1y - 12$ cao |
| | | | | **Total for Question: 4 marks** |

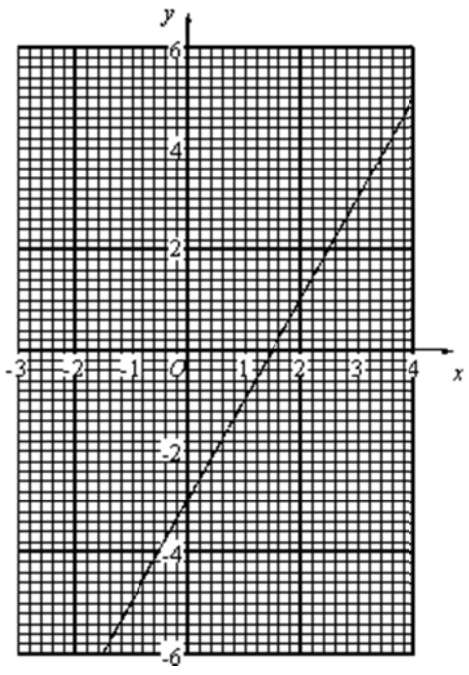
**M21.**

| | Working | Answer | Mark | Additional Guidance |
|---|---|---|---|---|
| (a) | $2x - 3 + x + 6 + 3x + 1$ | $6x + 4$ | 2 | **M1** for $2x - 3 + x + 6 + 3x + 1$ **or** $6x + k$ seen **A1** for $6x + 4$, condone P = $6x + 4$ but not $x = 6x + 4$ or $0 = 6x + 4$ |
| (b) | $6x + 4 = 37$<br>$6x = 33$<br>$x = 5.5$ | 5.5 | 2 | **M1** for "$6x + 4$" = 37, must be 3 term linear equation with coefficient of $x \neq 1$<br>**A1** for 5.5, $\frac{11}{2}$, $5\frac{1}{2}$ oe or ft for their "$6x + 4$" provided $x$ is positive.<br>**OR**<br>**M1** for a correct 2 stage numerical process to find $x$<br>**A1** for 5.5, $\frac{11}{2}$, $5\frac{1}{2}$ oe or ft for their "$6x + 4$" provided $x$ is positive.<br>T&I Allow 2 marks for 5.5oe , otherwise 0 (**SC B1** "$x + k = 37$" or "$kx = 37$)<br>NB Do not award marks in (a) for $6x + 4$ in (b) |
| | | | | **Total for Question: 4 marks** |

**M22.**

| | Working | Answer | Mark | Additional Guidance |
|---|---|---|---|---|
| (a) | $4(2x + 5) + 2(3x - 2)$<br>$8x + 20 + 6x - 4$ | $14x + 16$ | 2 | **M1** for either $8x + 20$ or $6x - 4$ or $4 \times 2x + 4 \times 5$ or $2 \times 3x - 2 \times 2$ or $14 \times$ or $+ 16$<br>**A1** for $14x + 16$ |
| (b) | | $y(y - 4)$ | 1 | **B1** |
| | | | | **Total for Question: 3 marks** |

**M23.**

| | Working | | | | | | | Answer | Mark | Additional Guidance |
|---|---|---|---|---|---|---|---|---|---|---|
| (a) | $x$ | –2 | –1 | 0 | 1 | 2 | 3 | Table | 2 | **B2** for 2 correct entries |
| | $y$ | –7 | **–5** | –3 | –1 | **1** | 3 | | | (**B1** for 1 correct entry) |
| (b) |  | | | | | | | Graph | 2 | **B2** for straight line from (–2, –7) to (3, 3) (**B1** for 5 of their points correctly plotted **or** single straight line passing through (0, –3) from $x = -2$ to $+3$ **or** for a straight line with gradient 2 from $x = -2$ to $+3$ **or** correct straight line that passes through 3 correct points) |
| | | | | | | | | | | **Total for Question: 4 marks** |

**M24.**

| | Working | Answer | Mark | Additional Guidance |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| (a) | $4(2x + 5) + 2(3x - 2)$<br>$8x + 20 + 6x - 4$ | $14x + 16$ | 2 | **M1** for either $8x + 20$ or $6x - 4$ or $4 \times 2x + 4 \times 5$ or $2 \times 3x - 2 \times 2$ or $14 \times$ or $+ 16$<br>**A1** for $14x + 16$ |
| (b) | $x^2 + 5x + 8x + 40$ | $x^2 + 13x + 40$ | 2 | **B2** cao<br>(**B1** for 3 or 4 of the 4 terms correct, can be implied by $x^2 + 13x + n$ or $nx^2 + 13x + 40$) |
| | | | | **Total for Question: 4 marks** |

**M25.**

| | Working | Answer | Mark | Additional Guidance |
|---|---|---|---|---|
| (a) | | $5(x + 2)$ | 1 | **B1** |
| (b) | $(x - 3)(x + 5)$<br>$x^2 - 3x + 5x - 15$ | $x^2 + 2x - 15$ | 2 | **M1** for 3 out of 4 terms of $x^2$, $-3x$, $5x$, $-15$ correct<br>**A1** for $x^2 + 2x - 15$ |
| | | | | **Total for Question: 3 marks** |

**M26.**

| Working | Answer | Mark | Additional Guidance |
|---|---|---|---|
| (0, 6), (1, 5), (2, 4), (3, 3), (4, 2), (5, 1), (6, 0) | Line | 3 | **M1** for plotting at least two correct points (may be implied by correct answer)<br>**A1** for line drawn through at least two points<br>**A1** for a line from (6, 0) to (0, 6)<br>(**B2** for plotting three correct points / **B1** for |

| | | | |
|---|---|---|---|
| | | | plotting two correct points)<br>SC **B1** for line through (0, 6) or for gradient of –1 |
| | | | **Total for Question: 3 marks** |

**M27.**

| Working | Answer | Mark | Additional Guidance |
|---|---|---|---|
| $x^2 - 3x + 4x - 12$ | $x^2 + x - 12$ | 2 | **M1** for any three of $x^2$, $-3x$, $4x$, $-12$<br>**A1** for $x^2 + x - 12$ cao |
| | | | **Total for Question: 2 marks** |

**M28.**

| | Answer | Mark | Additional Guidance |
|---|---|---|---|
| (a) | $5x - y$ | 2 | **B2** for $5x - y$ cao<br>(**B1** for $5x + ny$ or for $nx - y$) |
| (b) | $\frac{1}{2y}$ | 2 | **B2** for $\frac{1}{2y}$ cao<br>(**B1** for $\frac{2}{4y}$ or for $\frac{x}{2xy}$ ) |
| (c) | $x - 3$ | 1 | **B1** for $x - 3$ cao |
| | | | **Total for Question: 5 marks** |

**M29.**

| | Answer | Mark | Additional Guidance |
|---|---|---|---|
| (a) | $t^{10}$ | 1 | **B1** cao |
| (b) | $x^{12}$ | 1 | **B1** cao |

| | |
|---|---|
| | **Total for Question: 2 marks** |

**M30.**

| | Answer | Mark | Additional Guidance |
|---|---|---|---|
| (a) | –4, (1), 6, 11, (16) | 2 | **B2**<br>(**B1** for 1 correct entry) |
| (b) | Straight line | 2 | **M1** for plotting at least 4 of 'their points' correctly<br>**A1** for correct straight line for $-1 \leq x \leq 3$<br>S.C. **B1** for line of gradient 5 or $y$-intercept 1 on $y$ axis if M0 above |
| | | | **Total for Question: 4 marks** |

**M31.**

| | Working | Answer | Mark | Additional Guidance |
|---|---|---|---|---|
| (i) | | $30x - 10y$ | 5 | **B2** cao<br>(If no marks then B1 $30x$, B1 $10y$) |
| (ii) | $6 - 12x - 3x - 3 = 0$<br>$3 - 15x = 0$<br>$15x = 3$ | $\frac{1}{5}$ | | **M1** for correct multiplication of brackets to get<br>$6 - 12x - 3x - 3$<br>**A1** $3 - 15x = 0$<br>**B1** ft for "$\frac{1}{5}$" |
| | | | | **Total for Question: 5 marks** |

**M32.**

| | Answer | Mark | Additional Guidance |
|---|---|---|---|
| (a) | $6c - 4$ | 1 | **B1** oe |
| (b) | $x(y + 3)$ | 1 | **B1** for $x(y + 3)$ oe or $(x + 0)(y + 3)$ oe |
| | | | **Total for Question: 2 marks** |

**M33.**

| | Answer | Mark | Additional Guidance |
|---|---|---|---|
| (a) | $7e - 6f$ | 2 | **B2** (**B1** for $7e$ or $-6f$ seen) |
| (b) | $6c - 4$ | 1 | **B1** (accept $6 \times c - 4$, $c6 - 4$ or equivalent expansion) |
| (c) | $x(y + 3)$ | 1 | **B1** |
| | | | **Total for Question: 4 marks** |

**M34.**

| | Working | Answer | Mark | Additional Guidance |
|---|---|---|---|---|
| (a) | $(18 - 6) \div 4$ | 3 | 2 | **M1** for $18 - 6$ or 12 or $3 \times 4 + 6$ or $4n + 6 = 18$ or 10, 14, 18 seen<br>**A1** for 3 cao |
| (b) | | $4n + 6$ | 2 | **B2** for $4n + 6$ or (cost = ) $4n + 6$<br>(**B1** for $4n$ + a or $bn + 6$, where $a$ and $b$ are numbers ($b \neq 0$)<br>or $n = 4n + 6$ or $4n + 6 = 18$ or £ $4n + 6$ or $4x + 6$) |
| | | | | **Total for Question: 4 marks** |

**M35.**

| Answer | Mark | Additional Guidance |
|---|---|---|
| –2, –1, 0, 1, 2 | 2 | **B2** for –2, –1, 0, 1, 2 cao<br>(**B1** for 4 correct<br>or for 4 correct and one incorrect<br>or for 5 correct and one incorrect) |
| | | **Total for Question: 2 marks** |

**M36.**

| | Working | Answer | Mark | Additional Guidance |
|---|---|---|---|---|
| (a) | 300 ÷ 25 | 12 | 2 | **M1** for 25 + 25 + 25 + ... or "3" ÷ 25 or £1 = 4<br>oe **A1** for 12 cao |
| (b) | | $3x$ | 1 | **B1** for $3x$ or $3 \times x$ |
| (c) | | $x + 5$ | 1 | **B1** for $x + 5$ cao |
| | | | | **Total for Question: 4 marks** |

**M37.**

| | Working | Answer | Mark | Additional Guidance |
|---|---|---|---|---|
| (a) | | $5d$ | 1 | **B1** for $5d$ or $5 \times d$ |
| (b) | | $2y^2$ | 1 | **B1** for $2y^2$ or $2 \times y^2$ |
| (c) | $4 \times 3a - 4 \times 7$ | $12a - 28$ | 2 | **M1** for $4 \times 3a$ or $4 \times 7$ or $12a$ or 28<br>**A1** for $12a - 28$ cao |
| (d) | | $t^3$ | 1 | **B1** for $t^3$ (accept $t^{1+2}$ oe) |
| (e) | | $m^2$ | 1 | **B1** for $m^2$ (accept $m^{5-3}$ oe) |

| | |
|---|---|
| | **Total for Question: 6 marks** |

**M38.**

| | Working | Answer | Mark | Additional Guidance |
|---|---|---|---|---|
| (a) | | (–8), –5, (–2), 1, 4, 7 | 2 | **B2** for all 4 values<br>(**B1** for any 2 correct) |
| (b) | Points + line | Correct line | 2 | **B2** cao for correct line between $x = –3$ and $x = 2$ (**B1** ft for plotting 4 points correctly or for a line with gradient 3 or for a line passing through (0,1)) |
| | | | | **Total for Question: 4 marks** |

**M39.**

| | Working | Answer | Mark | Additional Guidance |
|---|---|---|---|---|
| (a) | $v^2 = 6^2 + 2 \times 2.5 \times 9$ | 9 | 3 | **M1** for correct substitution giving $6^2 + 2 \times 2.5 \times 9$ or better<br>**M1** (dep) for $\sqrt{"81"}$<br>**A1** cao accept ±9<br>[SC: **B1** for answer of 81 if M0 scored] |
| (b) | $v^2 – u^2 = 2as$<br><br>**OR**<br>$\frac{v^2}{2a} = \frac{u^2}{2a} + s$ | $\frac{v^2 - u^2}{2a}$ oe | 2 | **B2** for $\frac{v^2 - u^2}{2a}$ oe<br><br>(**B1** for $v^2 – u^2 = 2as$ oe or $\frac{v^2}{2a} = \frac{u^2}{2a} + s$ oe)<br>Examples:<br>$s = \frac{v^2 - u^2}{2}$ ÷ $a$ gets **B2**<br>$s = \frac{v^2 + u^2}{2a}$ gets **B1**<br>$s = v^2 – u^2 – 2a$ without the intermediate<br>$2as = v^2 - u^2$ gets B0 |
| | | | | **Total for Question: 5 marks** |

**M40.**

| | Working | Answer | Mark | Additional Guidance |
|---|---|---|---|---|
| (a) | | –1, 0, 1, 2, 3, 4 | 2 | **B2** cao<br>(**B1** for at least 5 correct and not more than one incorrect integer) |
| (b) | $6x < 9 + 3$ | $x < 2$ | 2 | **M1** for correctly separating $x$ and non $x$ terms or for dividing both sides by 6 [condone use of =, >, ≤, or ≥]<br>**A1** for $x < 2$, accept $x < \frac{12}{6}$<br>[SC: **B1** for $x = 2$ with no working. But 2 on the answer line with no working gets no marks] |
| | | | | **Total for Question: 4 marks** |

**M41.**

| | Answer | Mark | Additional Guidance |
|---|---|---|---|
| (a) | $5(m + 2)$ | 1 | **B1** for $5(m + 2)$ or $5(2 + m)$.<br>Accept $(5 – 0)(m + 2)$ or $(3 + 2)(m + 2)$ |
| (b) | $y(y – 3)$ | 1 | **B1** for $y(y – 3)$ or $(y – 3)y$ or $(y – 0)(y – 3)$ or $(y – 3)(y + 0)$ |
| | | | **Total for Question: 2 marks** |

**M42.**

| Working | Answer | Mark | Additional Guidance |
|---|---|---|---|
| $x + 30 + 2x + 3x = 180$<br>$6x + 30 = 180$<br>$6x = 150$ | 25 | 3 | **M1** for $x + 30 + 2x + 3x$ or $6x+30$ seen or $180 – 30$ or 150 seen<br>**M1** (dep) for $6 \times +30 = 180$ or better |

| | | | |
|---|---|---|---|
| | | | $\frac{"180 - 30"}{6}$<br>or<br>**A1** cao |
| | | | **Total for Question: 3 marks** |

**M43.**

| | Working | Answer | Mark | Additional Guidance |
|---|---|---|---|---|
| (a) | $50 = 4k - 10$<br>$4k = 60$ | 15 | 2 | **M1**for $50 = 4k - 10$ oe<br>**A1** cao |
| (b) | $y = 4 \times 2 - 3 \times 5$ | –7 | 2 | **M1** for $4 \times 2 - 3 \times 5$ oe<br>**A1** cao |
| | | | | **Total for Question: 4 marks** |

**M44.**

| Answer | Mark | Additional Guidance |
|---|---|---|
| (B), D, C, A, F, E | 3 | **B3** all correct<br>(**B2** for 3 or 4 correct<br>**B1** for 1 or 2 correct) |
| | | **Total for Question: 3 marks** |

**M45.**

| | Working | | | | | | | Answer | Mark | Additional Guidance |
|---|---|---|---|---|---|---|---|---|---|---|
| (a) | $x$ | –2 | –1 | 0 | 1 | 2 | 3 | Table | 2 | **B2** all 3 correct |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | $y$ | –11 | –7 | –3 | 1 | **5** | 9 | | | (**B1** for 1 or 2 correct) |
| (b) | | | | | | | | Graph | 2 | **B2** for correct line between $x = –2$ and $x = 3$<br>(**B1**ft for plotting 5 of their points correctly or for a straight line with gradient 4 or for a straight line passing through (0, –3)) |

**M46.**

| | Answer | Mark | Additional Guidance |
|---|---|---|---|
| (a) | $2x + 8y$ | 2 | **B2** for $2x + 8y$ oe<br>[**B1** for $2x$ or $8y$ seen]<br>{Note:$–8y$ seen with no working gets **B0**<br>$4x + 2x = 6x$ gets **B0**} |
| (b) | $2c + 4r$ | 2 | **B2** for $2c + 4r$ oe<br>[**B1** for $2c$ or $4r$ or seen]<br>Ignore any Left Hand Side = $2c + 4r$<br>{Note: ignore units or use of 'p'} |
| | | | **Total for Question: 4 marks** |

**M47.**

| | Working | Answer | Mark | Additional Guidance |
|---|---|---|---|---|
| **QWC (i, ii, iii)** | Angle RQT= 100°<br>(alternate angles are equal)<br>Angle TQU = 100 – $x$<br>Angle QUT = 100 – $x$<br>(base angles of isos triangle)<br>Angle QTU = 180 – (100 – $x$ + 100 – $x$) angles in a triangle) | Proof | 5 | **B1** for angle RQT = 100°<br>**B1** for angle TQU = 100 – $x$ or angle QUT = 100 – $x$<br>**B1** for completing the proof<br>**C2** for all 3 reasons given<br>**QWC: Proof should be clearly laid out with technical language correct, e.g. alternate angles are equal** |

| | | | | |
|---|---|---|---|---|
| | | | | [C1 for just 1 or 2 reasons given] **QWC: Proof should be clearly laid out with technical language correct, e.g. alternate angles are equal** |
| | | | | **Total for Question: 5 marks** |

**M48.**

| | Working | Answer | Mark | Additional Guidance |
|---|---|---|---|---|
| (a) | | opp sides are equal | 1 | **B1** for a correct explanation |
| (b) | $4x - 2x = 12 - 1$ | 5.5 | 2 | **M1** for $4x + 1 - 1 - 2x = 2x + 12 - 1 - 2x$ oe<br>**A1** for 5.5 or 11/2 or 5½ |
| (c) | '5.5' × 2 + 4 × '5.5' + 1 + 2'5.5' + 12 | 57 | 2 | **M1** for correct substitution of $x$ = '5.5' into the four expressions to find the sum of FOUR sides or<br>$8x + 13$ seen<br>**A1** ft |
| | | | | **Total for Question: 5 marks** |

**M49.**

| | Working | Answer | Mark | Additional Guidance |
|---|---|---|---|---|
| (a) | $4x = 9 - 1$<br>$\frac{4x}{4} + \frac{1}{4} = \frac{9}{4}$ | 2 | 2 | **M1** for $4x = 9 - 1$ or $\frac{4x}{4} + \frac{1}{4} = \frac{9}{4}$ or a clear intention to either subtract 1 from both sides of the equation or to divide each term by 4<br>**A1** for 2 (accept $\frac{8}{4}$) |

| | | | | |
|---|---|---|---|---|
| (b) | $2y = 12 + 1$<br>$\frac{2y}{2} - \frac{1}{2} = \frac{12}{2}$ | 6.5 | 2 | **M1** $2y = 12 + 1$ or $\frac{2y}{2} - \frac{1}{2} = \frac{12}{2}$ or a clear intention to either add 1 to both sides of the equation or divide each term by 2<br>**A1** 6.5 oe (accept $\frac{13}{2}$) |
| | | | | **Total for Question: 4 marks** |

**M50.**

| Answer | Mark | Additional Guidance |
|---|---|---|
| $2c + 4r$ | 2 | **B2** for $2c + 4r$ oe<br>[**B1** for $2c$ or $4r$ oe seen]<br>Ignore any Left Hand Side = $2c + 4r$<br>{Note: ignore units or use of 'p'} |
| | | **Total for Question: 2 marks** |

**M51.**

| | Working | Answer | Mark | Additional Guidance |
|---|---|---|---|---|
| (i) | | 32 | 1 | **B1** cao |
| (ii) | $2n^2 = 400$, $n^2 = 200$, $n$ not a whole number | No + explanation | 2 | **M1** sets $2n^2 = 400$<br>**C1** and concludes correctly<br>**OR**<br>**M1** 14th term is (392), 15th term is (450)<br>**C1** and concludes correctly |
| | | | | **Total for Question: 3 marks** |