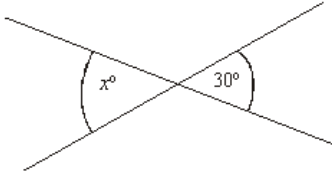
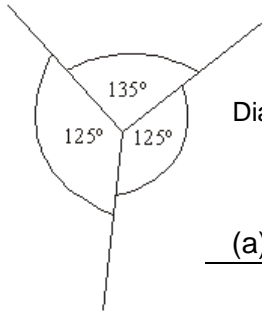
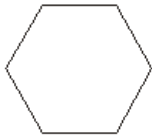
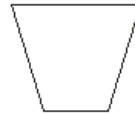
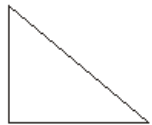
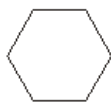
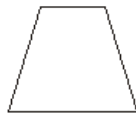
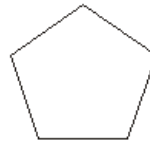


Foundation/Higher GCSE Mathematics Revision Pack**SHAPE AND SPACE – CALC****Q1.**Diagram **NOT** accurately drawn(a) (i) Write down the value of x . $x = \dots\dots\dots$

(ii) Give a reason for your answer.

..... (2)**Q2**Diagram **NOT** accurately drawnThis diagram is **wrong**.

(a) Explain why. (1)

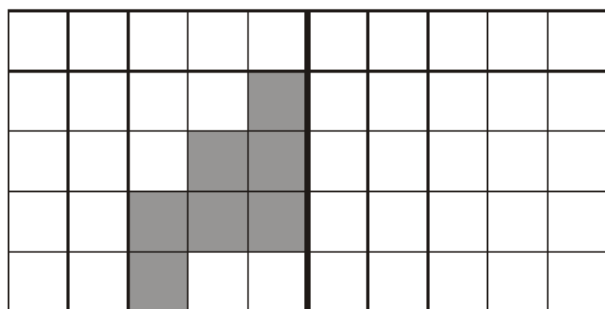
Q3. Here are 8 polygons.**A****B****C****D****E****F****G****H**(a) Write down the mathematical name for shape **A**. (1)

(b) Write down the letter of the shape that is an octagon. (1)

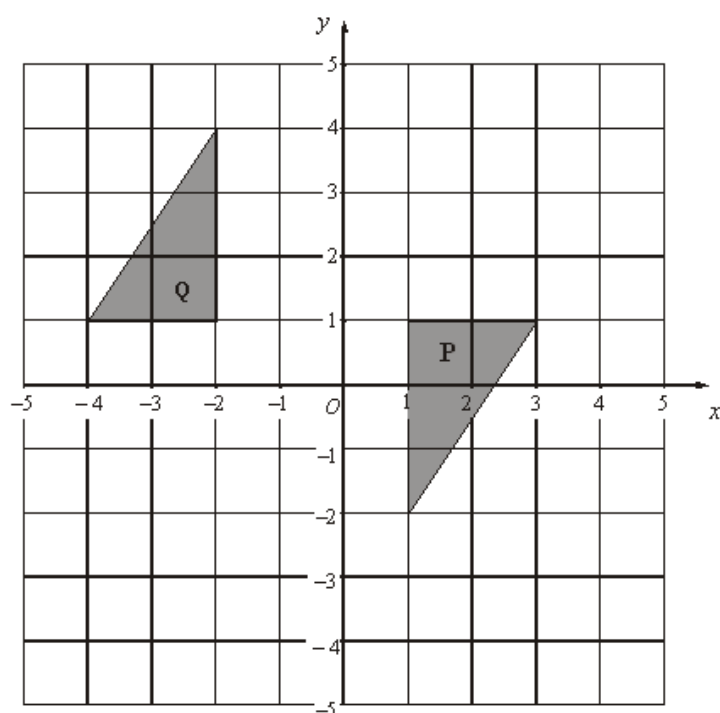
(c) Write down the letters of the pair of congruent shapes.

..... and (1) (Total 3 marks)

- Q5.** (a) Reflect the shaded shape in the mirror line. (1)



- (b) Describe the single transformation that moves shape **P** to shape **Q**.



.....(2) (Total 3 marks)

- Q6.** Jemilla goes swimming. She swims 64 lengths of a swimming pool.

Each length is 25 m long. (a) Work out how far Jemilla swims. Give your answer in km..

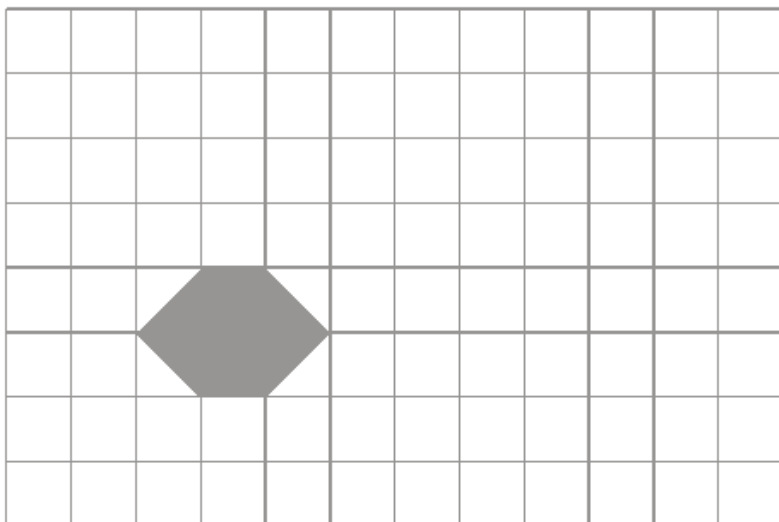
..... kilometres (3)

The swimming pool is 25 m long by 10 m wide by 2.5 m deep.

- (b) How many litres of water does it contain?

..... l (3) (Total 6 marks)

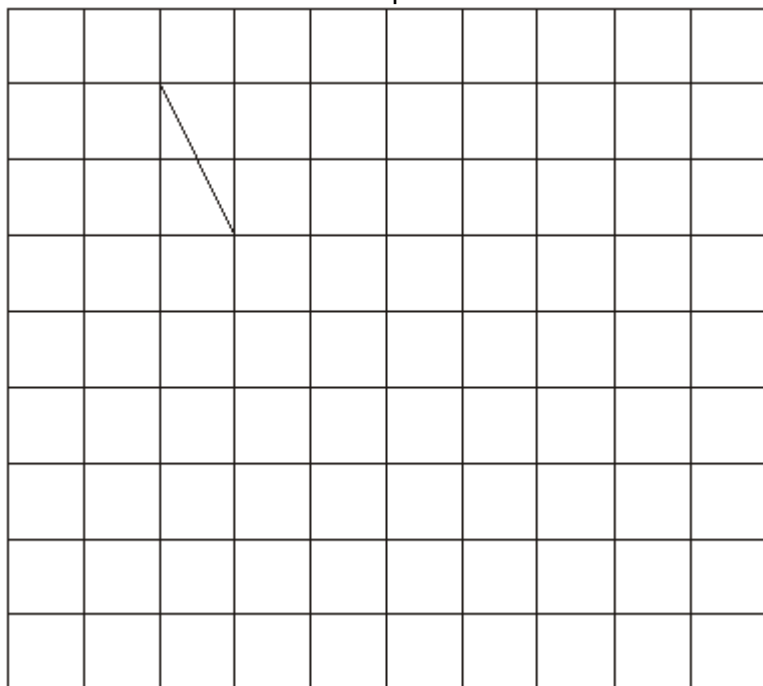
- Q7.** Harry buys some tiles so that he can tile his bathroom floor.
One of the tiles is drawn on the grid below.



On the grid to the left show
how the tiles will tessellate.
You should draw at least 6 tiles.

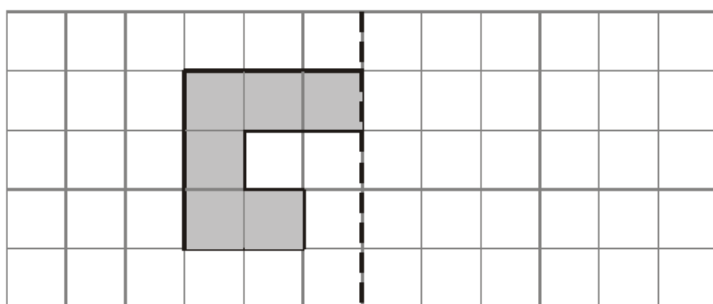
(Total 2 marks)

- Q8.** On the grid, show how this trapezium tessellates.
You should draw at least 6 trapeziums.



(Total 2 marks)

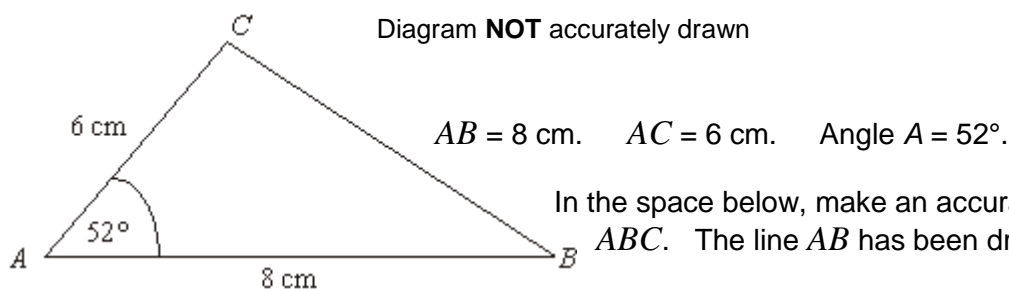
- Q9.**



Mirror Line

Reflect the shaded shape in the mirror line. **(Total 1 mark)**

Q10. The diagram shows a sketch of triangle ABC .



In the space below, make an accurate drawing of triangle ABC . The line AB has been drawn for you.

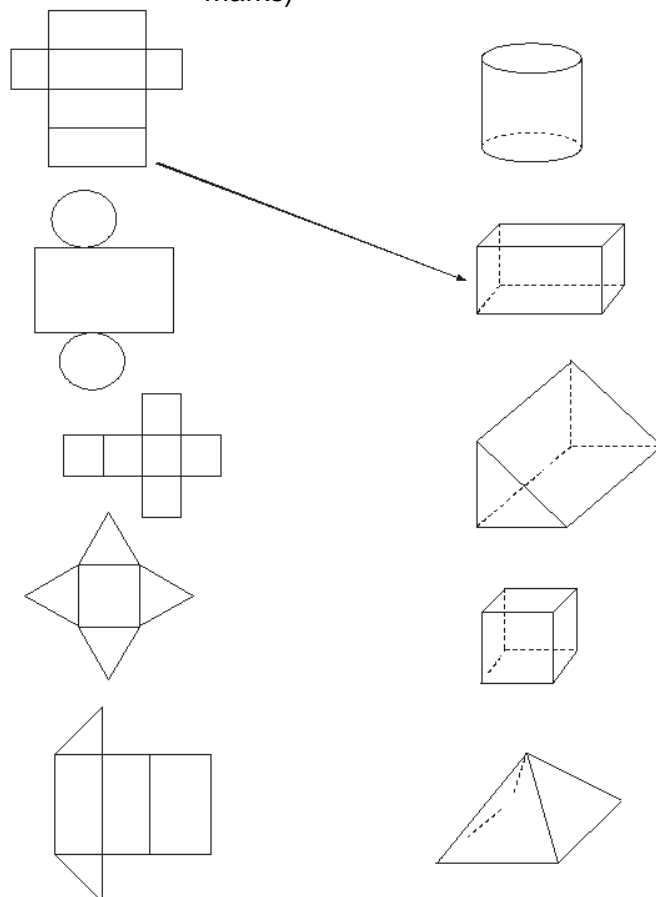
A _____ B (Total 2

marks)

Q11. The diagram shows some nets and some solid shapes.
An arrow has been drawn from one net to its solid shape.

Draw an arrow from each of the other nets to its solid shape.

(Total 3 marks)



Q12. (a) How many minutes are there between 8.50 pm and 10.05 pm?

..... minutes (1)

(b) (i) Write 15 25 using the 12-hour clock.

(ii) Write 9.15 pm using the 24-hour clock. (2)

Lucy and Saad went to a cafe on the same day.

Lucy was in the cafe from 10.15 am to 10.45 am.

Saad was in the cafe from 10.25 am to 11.05 am.

- (c) Work out the number of minutes that Lucy and Saad were in the cafe at the same time.

..... minutes

(2)
(Total 5 marks)

- Q13.** Lynn lives in Baston.
She is going to go to the cinema in Peterborough.
She will travel by bus between Baston and Peterborough.

Here is part of the bus timetable from Bourne to Peterborough and from Peterborough to Bourne.

Bourne to Peterborough							
Bourne	15 00	15 30	16 00	16 30	17 00	17 30	18 30
Baston	15 12	15 42	16 12	16 42	17 12	17 42	18 42
Market Deeping	15 20	16 00	16 20	17 00	17 20	18 00	18 50
Northborough	15 24	16 04	16 24	17 04	17 24	18 04	18 54
Glington	15 28	16 08	16 28	17 08	17 28	18 08	18 58
Peterborough	15 40	16 20	16 40	17 20	17 40	18 20	19 10

Peterborough to Bourne							
Peterborough	17 30	17 45	18 00	18 30	19 30	20 15	21 45
Glington	17 42	17 57	18 12	18 42	19 42	20 27	21 57
Northborough	17 46	18 01	18 16	18 46	19 46	20 31	22 01
Market Deeping	17 50	18 05	18 20	18 50	19 50	20 35	22 05
Baston	18 05	18 10	18 35	19 05	19 55	20 50	22 10
Bourne	18 17	18 22	18 47	19 15	20 05	21 00	22 20

It takes Lynn 30 minutes to walk between the bus station in Peterborough and the cinema.
The latest bus she can catch home leaves Peterborough at 21 45

Lynn wants to watch a film called Sherlock Holmes.

Sherlock Holmes

Running time: 2 hours 14 minutes

Starts at: 4:15 pm, 5:15 pm, 7:10 pm

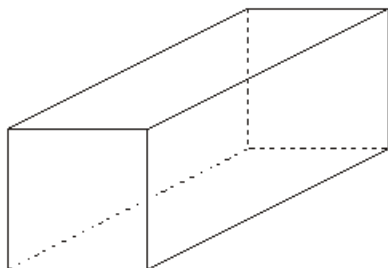
The film lasts for 2 hours 14 minutes. Plan a schedule for Lynn's visit to the cinema.

Schedule	Time
Bus leaves Baston	
Bus arrives Peterborough	
Film starts	
Bus leaves Peterborough	
Bus arrives Baston	

(Total 5 marks)**Q14.**

The picture shows a man standing next to a flagpole. The man is of normal height. The man and the flagpole are drawn to the same scale.

- (a) Write down an estimate for the height, in metres, of the man. m (1)
- (b) Work out an estimate for the height, in metres, of the flagpole. m (2)

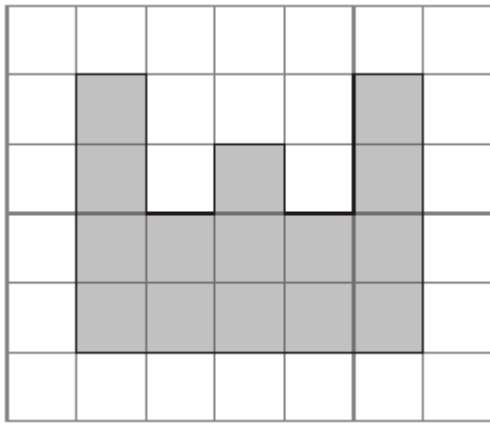
(Total 3 marks)**Q15.**

Here is a diagram of a cuboid. Write down the number of

- (i) faces
(ii) edges
(iii) vertices

(Total 3 marks)

Q16. A shaded shape has been drawn on the centimetre grid.



(a) Find the perimeter of the shaded shape.

..... cm (1)

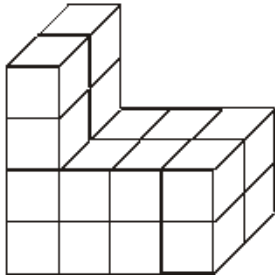
(b) Find the area of the shaded shape.

..... cm² (1)

Here is a solid prism made from centimetre cubes.

(c) Find the volume of this prism.

Diagram **NOT** accurately drawn



represents 1 cm³

..... cm³

(2)
(Total 4 marks)

Q17. Here is part of a railway timetable.

Bristol Temple Meads	08 00	08 30	09 00
Bath	08 15	08 45	09 15
Chippenham	08 30	09 00	09 30
Swindon	08 50	09 20	09 50
Didcot	09 15	09 45	10 15
Reading	09 35	10 05	10 35
London Paddington	09 55	10 25	10 55

A train leaves from Bristol Temple Meads at 09 00 (a) At what time should the train arrive at Swindon?

..... (1)

Jambaya gets to the station in Chippenham at 08 45
She waits for the next train to Didcot.

(b) (i) How long should she have to wait?

..... minutes

(ii) At what time should she arrive at Didcot?

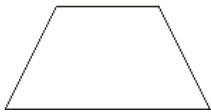
..... (2)

All the trains should take the same time to travel from Bath to Reading.

(c) How long, in minutes, should it take to travel from Bath to Reading?

Q18. (a) Write down the mathematical name of each of these quadrilaterals.

(i)



(i)

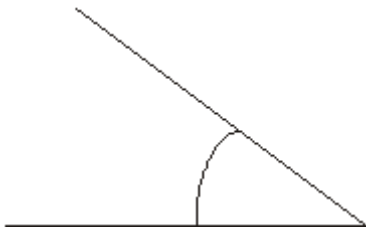
(ii)



(ii)

(2)

(b) What type of angle is this?



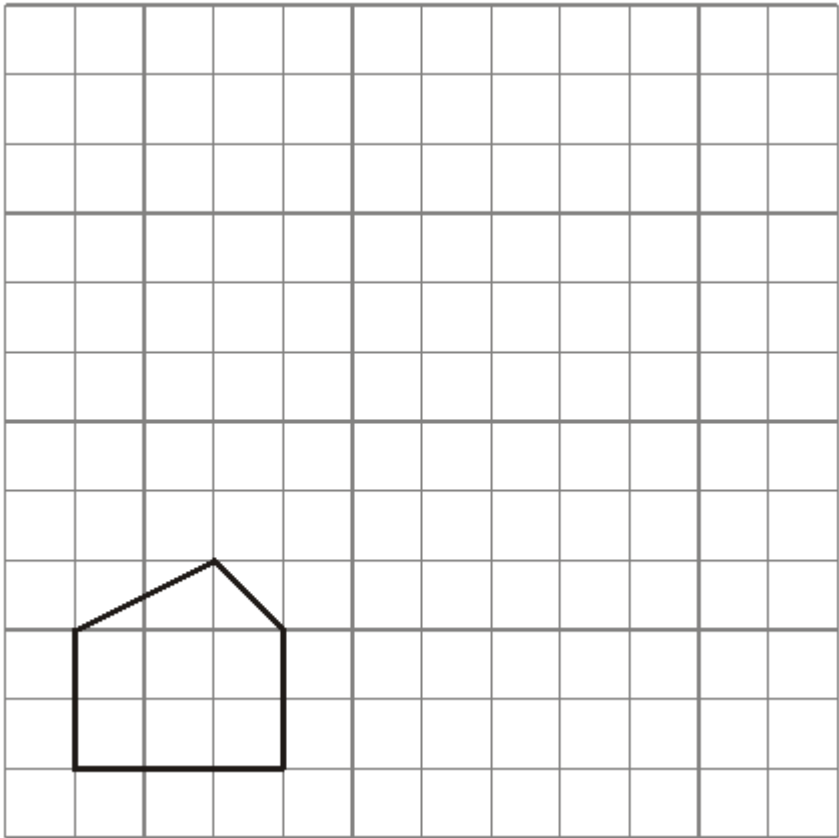
.....(1) (Total 3 marks)

Q19. A blue stick is 1.42 metres long. A red stick is 3 centimetres shorter than the blue stick.

Work out the length of the red stick. Give your answer in metres.

..... m (Total 2 marks)

Q20.



On the grid, enlarge the shape with a scale factor of 2

(Total 2 marks)

Q21.

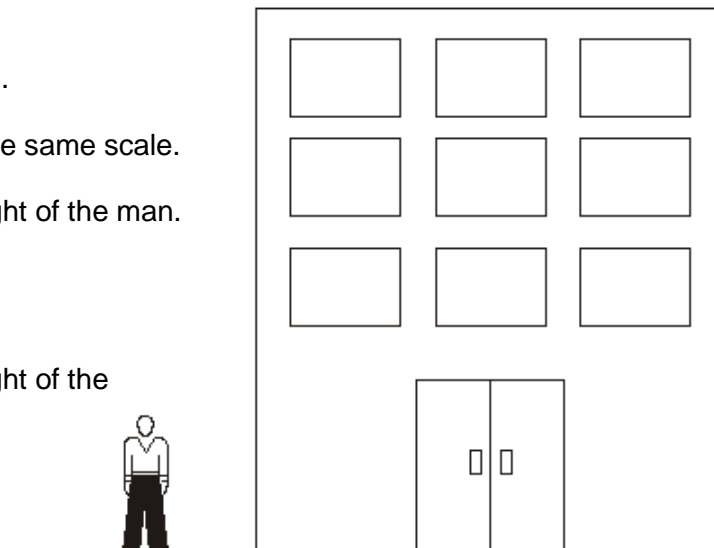
The diagram shows a building and a man.
The man is of normal height.
The man and the building are drawn to the same scale.

(a) Write down an estimate for the height of the man.

..... (1)

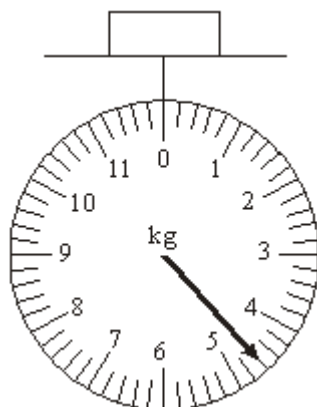
(b) Write down an estimate for the height of the building.

.....(2) (Total 3 marks)



Q22.

(a) Write down the weight in kg shown on this scale. kg (1)



(b) (i) How many pounds are there in 1 kg?..... pounds (1)

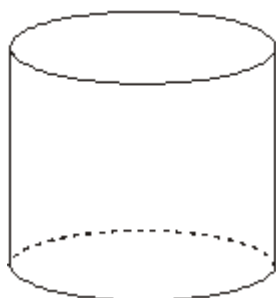
The weight of a baby is 5 kg. (ii) Change 5 kg to pounds.

..... pounds (1) (Total 3 marks)

Q23.

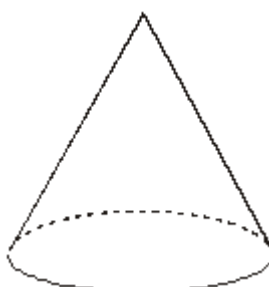
Write down the mathematical name of each of these two 3-D shapes.

(i)



(i)

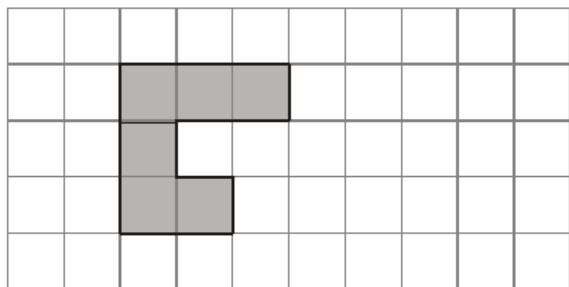
(ii)



(ii)

(Total 2 marks)

Q24.



The shaded shape is drawn on a grid of centimetre squares.

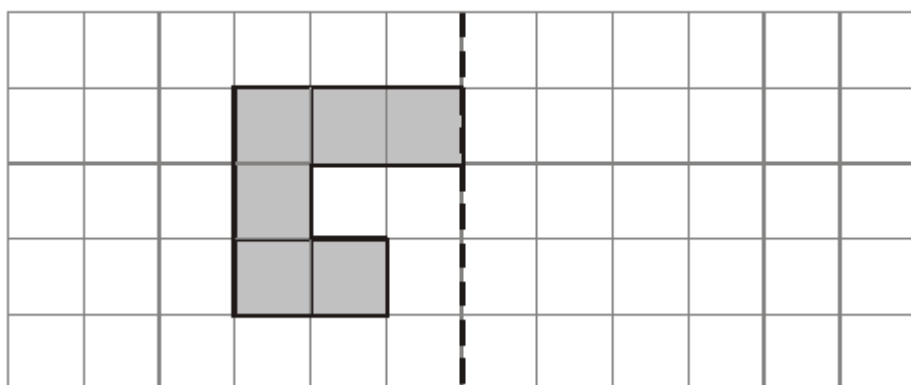
(a) Find the perimeter of the shaded shape.

..... cm (1)

(b) Find the area of the shaded shape..... cm²

(1)

Mirror Line

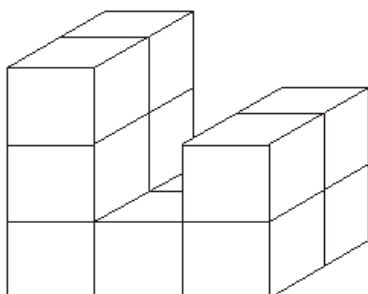


(c) Reflect the shaded shape in the mirror line.

Diagram **NOT** accurately drawn

(1)

Here is a prism made of centimetre cubes.

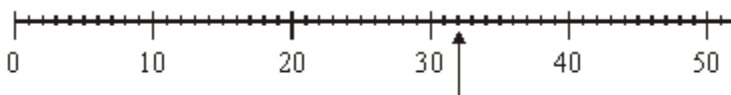


(d) Find the volume of the prism.

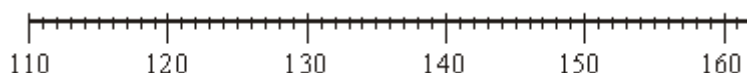
..... cm³

(1)
(Total 4 marks)

Q25.



(a) Write down the number marked by the arrow. (1)



(b) Find the number 127 on the number line. Mark it with an arrow (↑). (1)



(c) Write down the number marked by the arrow..... (1)



- (d) Find the number 3.18 on the number line. Mark it with an arrow (\uparrow). (1) (Total 4 marks)

Q26. Here is a cuboid.

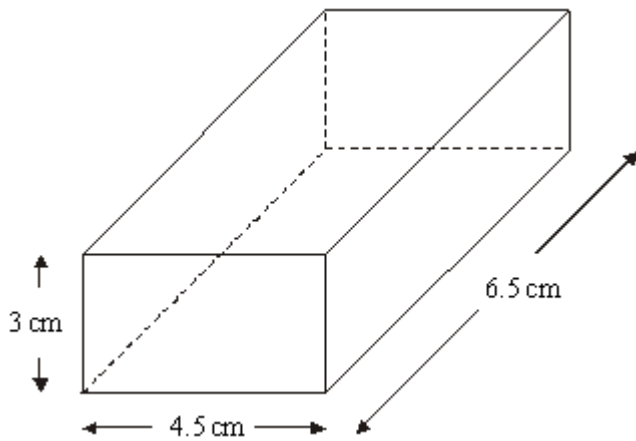
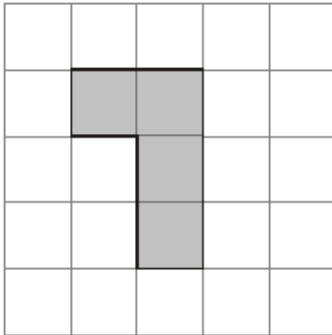


Diagram **NOT** accurately drawn

Calculate the volume of the cuboid.

..... cm³

(Total 2 marks)



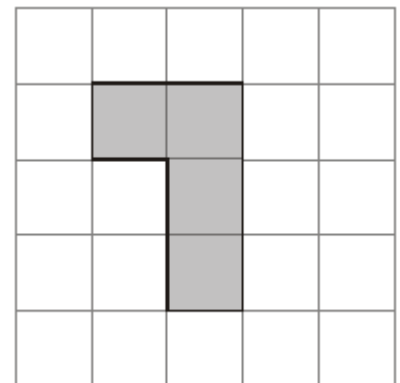
Q27.

- (a) Shade **one** more square to make a pattern with 1 line of symmetry.

(1)

- (b) Shade **one** more square to make a pattern with rotational symmetry of order 2

(1)
(Total 2 marks)



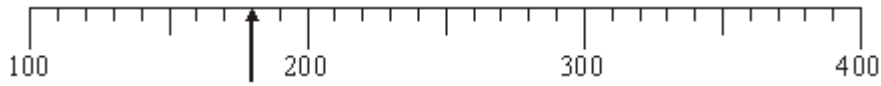
Q28.

(a)



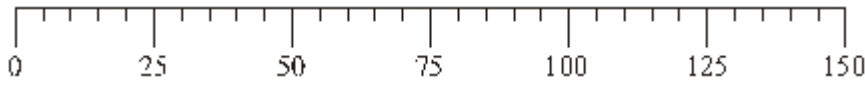
Write down the number marked by the arrow..... (1)

(b)



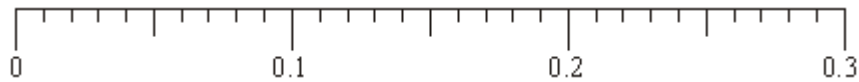
Write down the number marked by the arrow..... (1)

(c)



Find the number 110 on the number line. Mark it with an arrow (\uparrow). (1)

(d)



Find the number 0.27 on the number line. Mark it with an arrow (\uparrow). (1) (Total 4 marks)

Q29. (a) Measure, in centimetres, the length of the line AB .

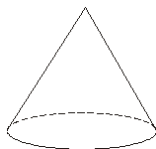
A ————— B cm (1)

(b) Mark the midpoint of the line AB with a cross (\times). (1)

(Total 2 marks)

Q30. Write down the name of each of these two 3-D shapes.

(i)



(ii)

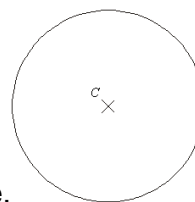


(i)..... (ii) (Total 2 marks)

Q31. (a) The point O has been marked with a cross (\times). Draw a circle with radius 4 cm and centre O .

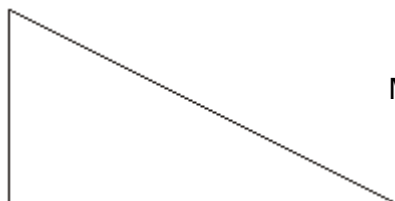


(1)



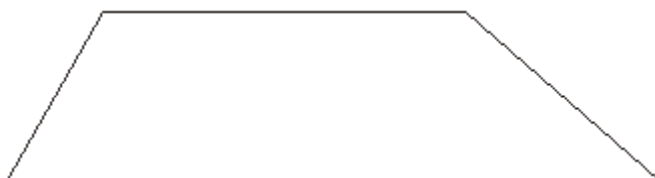
- (b) Here is a circle centre C . Draw a diameter in the circle. (1) (Total 2 marks)

-
- Q32.** (a) Here is a right-angled triangle.



Mark the right angle with a letter R. (1)

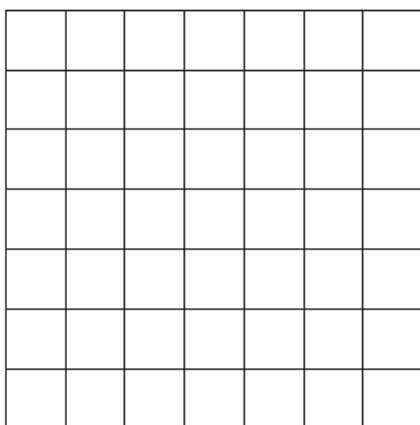
- (b) Here is a trapezium.



Mark an acute angle with a letter A.

(1)

- (c) On the grid, draw a kite.



(1) (Total 3 marks)

-
- Q33.** (a) Write three pounds fifty pence in figures.

£

(1)

- (b) Write three pounds five pence in figures.

£

(1)

- (c) Write three thousand five hundred and ten pounds in figures.

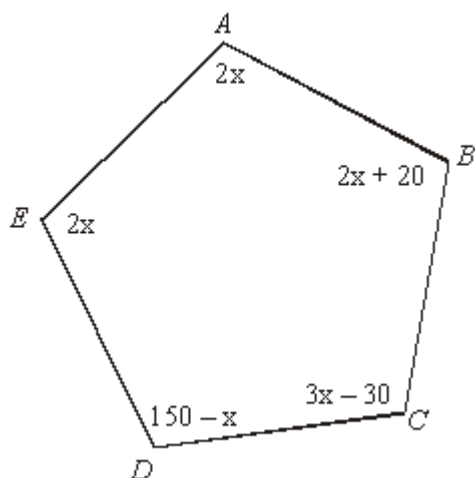
£

(1)

(Total 3 marks)

- Q34.** In the diagram all of the angles are in degrees.
Find the size of angle CDE .

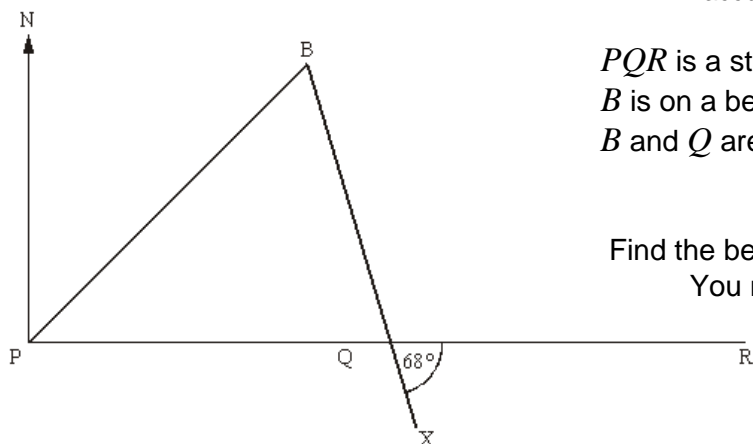
Diagram **NOT**
accurately drawn



.....
(Total 4 marks)

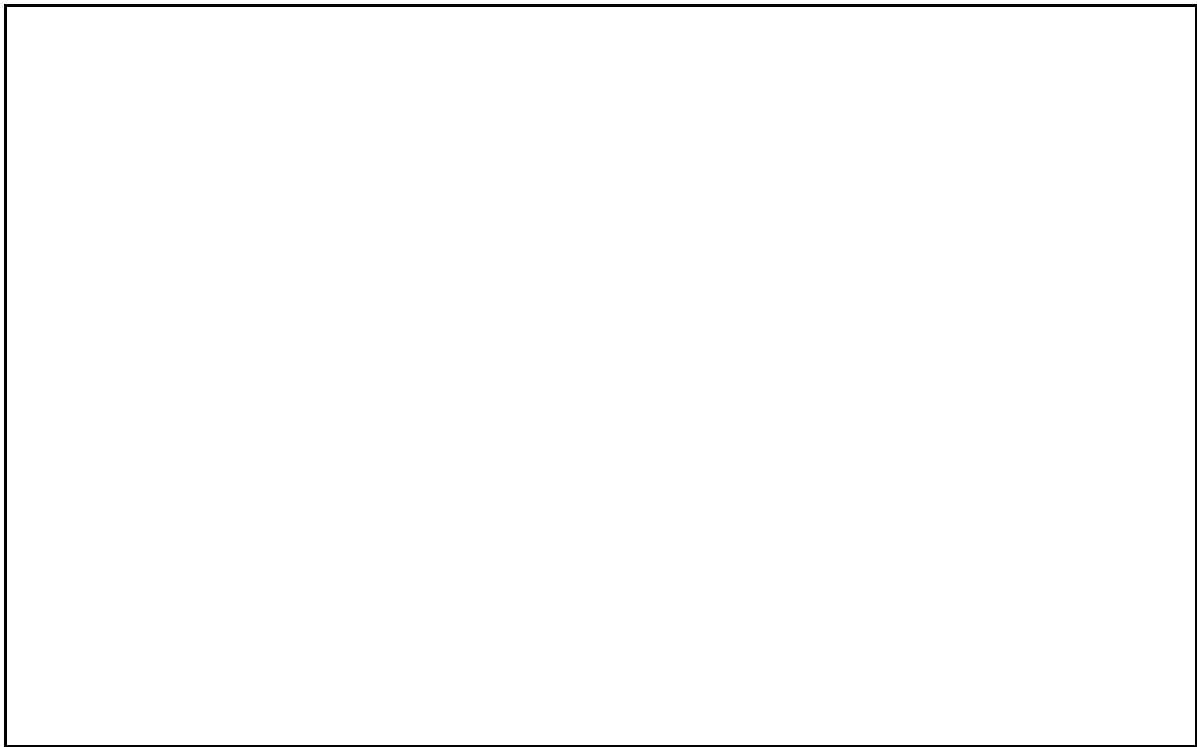
- Q35.**

Diagram **NOT**
accurately drawn



PQR is a straight line going East.
 B is on a bearing, 052° from P .
 B and Q are the same distance from P .

Find the bearing of X from B .
You must show your working out clearly.



..... °

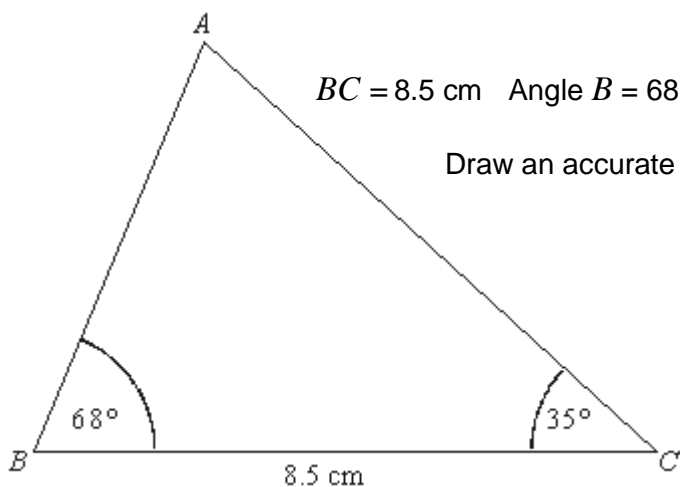
(Total 3 marks)

Q36. Here is a sketch of triangle ABC .

Diagram **NOT**
accurately drawn

$BC = 8.5 \text{ cm}$ Angle $B = 68^\circ$ Angle $C = 35^\circ$

Draw an accurate diagram of triangle ABC in the space below.



(Total 3 marks)

GCSE FOUNDATION–CALCULATOR REVISION–SHAPE, SPACE & MEASURE- mark scheme
M1.

	Answer	Mark	Additional Guidance
(a)(i)	30	2	B1 cao
(ii)			B1 (dep) “opposite” (angles), or demonstrates angles sum to 360 ($30 + 30 + 150 + 150$); states “angles on a straight line” <i>twice</i> .
(b)(i)	Reason	1	B1 reason Eg don’t sum to 360, adds to give 385 (ie not 360°)

M2.

	Working	Answer	Mark	Additional Guidance
(a)	Reason	1	B1 reason Eg don’t sum to 360, adds to give 385 (ie not 360°)	

M3.

	Working	Answer	Mark	Additional Guidance
(a)		Regular hexagon	1	B1 (accept hexagon)
(b)		D	1	B1 cao
(c)		D and G	1	B1 for both, in any order
Total for Question: 3 marks				

M5.

	Working	Answer	Mark	Additional Guidance
(a)		Correct reflection	1	B1 cao
(b)		Rotation 180° centre (−0.5, 1)	2	B2 for all 3 attributes B1 for any two of the three attributes
Total for Question: 3 marks				

M6.

	Working	Answer	Mark	Additional Guidance
(a)	$64 \times 75\text{m} = 4800\text{m}$ $4800 \div 1000$	4.8 km	3	M1 for 64×75 M1 for " 64×75 " $\div 1000$ A1 cao
(b)	$\text{Vol} = 25 \times 10 \times 2.5 = 625\text{m}^3$ 625×1000	625 000	3	M1 for attempt at finding the volume M1 for attempt to find the number of / in 1m^3 or $1\text{m}^3 = 1000/$ A1 cao
Total for Question: 6 marks				

M7.

Working	Answer	Mark	Additional Guidance
	Correct tessellation	2	M1 for extra hexagons in vertical plane or at points in horizontal plane or 1 hexagon meets another on a diagonal plane A1 for at least 6 hexagons tessellating correctly
Total for Question: 2 marks			

M8.

Answer	Mark	Additional Guidance
Correct tessellation	2	B2 for at least 6 correct shapes (including initial shape) correctly tessellating (B1 for at least 4 correct shapes (including initial shape) correctly tessellating)
Total for Question: 2 marks		

M9.

Answer	Mark	Additional Guidance
Reflection	1	B1 cao
Total for Question: 1 marks		

M10.

Answer	Mark	Additional Guidance
Correct triangle	2	B2 for correct triangle in guidelines (B1 for angle of $52^\circ (\pm 2^\circ)$ or side $AC = 6\text{ cm}$ ($\pm 2\text{ mm}$))
Total for Question: 2 marks		

M11.

Answer	Mark	Additional Guidance
	3	B3 all 4 correct B2 for 2 or 3 correct (B1 for 1 correct)
Total for Question: 3 marks		

M12.

	Working	Answer	Mark	Additional Guidance
(a)	$10 + 60 + 5$	75	1	B1 (accept 1 hour 15 minutes or 1.25)

				hours or 1¼ hours with units)
(b)(i)		3.25 pm	2	B1 for 3.25 pm oe [accept 3.25 only and 03.25 pm but do not accept 3.25 am or 03.25]
(ii)		21 15		B1 for 21 15 (ignore am or pm written)
(c)	10.45 – 10.25 OR 10.25 + 5 + 10 + 5	20	2	M1 for an attempt to find the time difference between 10.25 and 10.45 A1 cao
Total for Question: 5 marks				

M13.

Answer	Mark	Additional Guidance
e.g. 15 12 15 40 4:15pm 19 30 19 55	5	B1 for a correct departure time (one with an associated arrival time at least 30 mins before film start time) B1 for correct associated arrival time in Peterborough from a correct departure time from Bourne or Baston B1 for either 4:15pm or 5:15pm with one correct bus time) B1 for a correct departure time (at least 2hrs 44mins after film start time) B1 for correct associated arrival time in Baston
Total for Question: 5 marks		

M14.

	Working	Answer	Mark	Additional Guidance
(a)		1.5-2.0	1	B1 for height 1.5-2.0 inclusive
(b)	Height × 4	6-8	2	M1 for ×4 or “height” × 4 A1 6-8 inclusive OR ft (a) × 4
Total for Question: 3 marks				

M15.

	Answer	Mark	Additional Guidance
(i)	6	3	B1 cao
(ii)	12		B1 cao
(iii)	8		B1 cao
Total for Question: 3 marks			

M16.

	Answer	Mark	Additional Guidance
(a)	24	1	B1 cao
(b)	15	1	B1 cao
(c)	20	2	B2 cao (B1 for 10 or 16 or 15)
Total for Question: 4 marks			

M17.

	Answer	Mark	Additional Guidance
(a)	09 50	1	B1 cao Accept am but not pm.
(b)(i)	15 min	2	B1 cao
(ii)	09 45		B1 for 9 45, 945am oe; or for 10.15 if 45 is given in (i)
(c)	80 min	2	M1 for either 60 min, or for 20 min, or for any attempt at a method to “count on” to the next time A1 cao Allow 1 h 20 min, but not 1.20, 1:20 etc.
Total for Question: 5 marks			

M18.

	Answer	Mark	Additional Guidance
(a)(i)	Trapezium	2	B1 Trapezium. Accept misspelling as long as the word given is still recognisable.
(ii)	Parallelogram		B1 Parallelogram. Accept misspelling as long as the word given is still recognisable.
(b)	Acute	1	B1 cao
Total for Question: 3 marks			

M19.

Working	Answer	Mark	Additional Guidance
1.42 – 0.03	1.39	2	M1 for sight of 142 – 3 or 1.42 – 0.03 or 1420 – 30 A1 cao
Total for Question: 2 marks			

M20.

Answer	Mark	Additional Guidance
(Enlargement)	2	B2 cao (B1 for 2 lines correct, or correct enlargement sf 3)
Total for Question: 2 marks		

M21.

	Working	Answer	Mark	Additional Guidance
(a)		1.5 → 2.2 metres	1	B1 for 1.5m → 2.2m oe or 4ft 10 inches → 7ft oe
(b)	3 × (a) → 5 × (a)	4.5 m → 11 m	2	M1 for 3 × (a) → 5 × (a) (units not needed but cannot be contradictory) A1 cao for 4.5m → 11m oe or 14½ ft → 35ft oe (units needed) Note: 5m = 500 cm = 196.85 inches = 16.4 ft
Total for Question: 3 marks				

M22.

	Answer	Mark	Additional Guidance
(a)	4.6	1	B1 cao
(b)(i)	2 → 2.4	2	B1 for 2 → 2.4
(ii)	10 → 12		B1 for 10 → 12 or 5 × '(i)' ft
Total for Question: 3 marks			

M23.

	Answer	Mark	Additional Guidance
(i)	Cylinder	2	B1 cao
(ii)	Cone		B1 cao
Total for Question: 2 marks			

M24.

	Answer	Mark	Additional Guidance
(a)	14	1	B1 cao
(b)	6	1	B1 cao
(c)	(Reflection)	1	B1 cao
(d)	12	1	B1 cao
Total for Question: 4 marks			

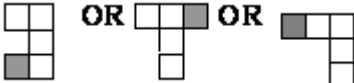
M25.


	Answer	Mark	Additional Guidance
(a)	32	1	B1 cao
(b)	127 marked	1	B1 cao
(c)	4.4	1	B1 cao
(d)	3.18 marked	1	B1 cao
Total for Question: 4 marks			

M26.

Answer	Mark	Additional Guidance
87.75	2	M1 for 3 × 4.5 × 6.5 seen or implied eg from answer of 87.7 or 87.8 or 88 (with no other working shown) A1 for 87.75 cao
Total for Question: 2 marks		

M27.

	Answer	Mark	Additional Guidance
(a)	Shading	1	B1 for one square shaded to get one of 

(b)	Shading	1	B1 for one square shaded to get 
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Total for Question: 2 marks

M28.

	Answer	Mark	Additional Guidance
(a)	33	1	B1 for 33 cao
(b)	180	1	B1 for 180 cao
(c)	110 marked	1	B1 for 110 marked cao
(d)	0.27 marked	1	B1 for 0.27 marked cao

Total for Question: 4 marks

M29.

	Answer	Mark	Additional Guidance
(a)	6.4	1	B1 for 6.2 – 6.6 inclusive; accept 62-66 with mm stated.
(b)	Midpoint marked	1	B1 for midpoint marked at 3 – 3.4 inclusive

Total for Question: 2 marks

M30.

	Answer	Mark	Additional Guidance
(i)	cone	1	B1 for cone or alternative spellings only that sound like “cone”.
(ii)	cylinder	1	B1 for cylinder or alternative spellings only that sound like “cylinder”. Accept circular based prism.

Total for Question: 2 marks

M31.

	Answer	Mark	Additional Guidance
(a)	circle drawn	1	B1 for a circle drawn within guidelines (see overlay)
(b)	diameter drawn	1	B1 for line through <i>C</i> and touching circle at both ends

Total for Question: 2 marks

M32.

	Answer	Mark	Additional Guidance
(a)	right angle marked	1	B1 for the right angle marked with square or R
(b)	acute angle marked	1	B1 for either (or both) of the acute angles marked
(c)	kite drawn	1	B1 for a kite drawn (accept square or rhombus or arrowhead)

Total for Question: 3 marks

M33.

	Answer	Mark	Additional Guidance
(a)	3.50	1	B1 for 3.50 cao
(b)	3.05	1	B1 3.05 cao
(c)	3510	1	B1 for 3510 or 3510.00

Total for Question: 3 marks

M34.

Working	Answer	Mark	Additional Guidance
$2x + 2x + 40 + 3x - 30 + 150 - x + 2x$ $= 540$ $8x + 140 = 540$ $x = 50$	100°	4	M1 $2x + 2x + 40 + 3x - 30 + 150 - x + 2x$ M1 collects terms correctly A1 $x = 50$ A1 cao

Total for Question: 4 marks

M35.

Working	Answer	Mark	Additional Guidance
	154°	3	B1 for 38° B1 for 64° B1 cao

Total for Question: 3 marks

M36.

Working	Answer	Mark	Additional Guidance
8.5 cm line drawn angles at B and C drawn	Correct Construction of triangle	3	B1 8.5 cm line drawn tolerance $\pm 0.2\text{cm}$ B1 angles at B and C drawn tolerance $\pm 2^\circ$ B1 fully correct within tolerance
Total for Question: 3 marks			