JustMaths

BUMPER "BETWEEN PAPERS" PRACTICE PAPER

SET 2 (OF 3)

FOUNDATION TIER (SUMMER 2017)

QUESTIONS

NOT A "BEST" GUESS PAPER.

NEITHER IS IT A "PREDICTION" ... ONLY THE EXAMINERS KNOW WHAT IS GOING TO COME UP! FACT!
YOU ALSO NEED TO REMEMBER THAT JUST BECAUSE A TOPIC CAME UP ON PAPER 1 IT MAY STILL COME UP ON PAPERS 2 OR 3 ...

WE KNOW HOW IMPORTANT IT IS TO PRACTISE, PRACTISE, PRACTISE .... SO WE'VE COLLATED A LOAD OF QUESTIONS THAT WEREN'T EXAMINED IN THE PEARSON/EDEXCEL NEW 9-1 GCSE MATHS PAPER 1 BUT WE CANNOT GUARANTEE HOW A TOPIC WILL BE EXAMINED IN THE NEXT PAPERS ...

ENJOY!

MEL & SEAGER

	Marks	Actual	
Q1. Size Order	**2**		
Q2. Coordinates	**4**		
Q3. Expand, simplify and factorise	**4**		
Q4. Inequalities	**4**		
Q5. Stem and leaf	**4**		
Q6. Rotations	**3**		
Q7. Reflections and rotations	**4**		
Q8. Enlargements	**3**		
Q9. Translations	**2**		
Q10. Area in context	**5**		
Q11. Forming equations	**2**		
Q12. Forming equations	**4**		
Q13. Fractions	**2**		
Q14. Fractions & percentages	**4**		
Q15. Real life graphs	**2**		
Q16. Bearings	**6**		
Q17. Distance-time graphs	**5**		
Q18. Area in context	**6**		
Q19. Speed distance time	**4**		
Q20. Depreciation	**2**		
Q21. Simultaneous equations	**5**		
Q22. Straight line graphs	**3**		
Q23. Rearranging equations	**3**		
Q24. Multiples in context	**4**		
Q25. Angle facts	**4**		
Q26. Plans and elevations	**2**		
Q27. Interior angles	**3**		
Q28. Venn diagrams	**4**		
	100		

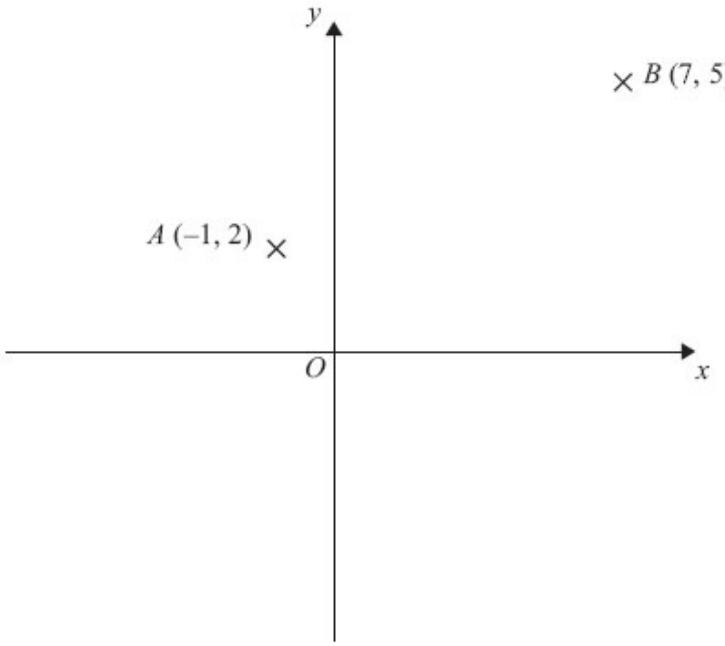
Q1. Write these numbers in order of size.

Start with the smallest number.

$$35\% \qquad \frac{3}{10} \qquad 0.32 \qquad \frac{2}{5} \qquad 0.25$$

(Total for question = 2 marks)

Q2.



A is the point (–1, 2)
B is the point (7, 5)

(a) Find the coordinates of the midpoint of *AB*.

(2)

P is the point (–4, 4)
Q is the point (1, –5)

(b) Find the gradient of *PQ*.

(2)

(Total for Question is 4 marks)

Q3. (a) Expand and simplify $7a + 4(a - 2b)$

(2)

(b) Simplify $n^6 \times n^5$

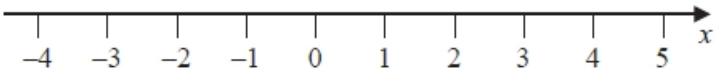
(1)

(c) Factorise $5x + 10$

(1)

(Total for question = 4 marks)

Q4. (a) Show the inequality $x < 3$ on the number line below.



(2)

(b) Solve the inequality $4x - 7 \geq 13$

..... **(2)**

(Total for question = 4 marks)

Q5. The stem and leaf diagram shows the number of passengers on each of 24 buses.

0	7 8
1	6 7 8
2	2 6 7 9
3	0 4 5 6 7 7 8
4	0 2 4 5 9
5	1 2 3

Key: 1 \| 6 means 16 passengers

(a) Work out the range.

(1)

(b) Work out the median.

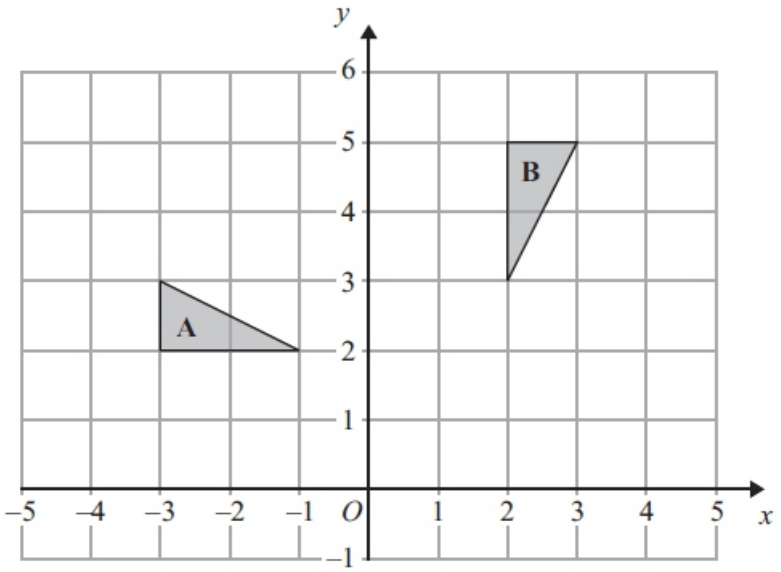
(2)

(c) How many buses had less than 20 passengers?

(1)

(Total for question = 4 marks)

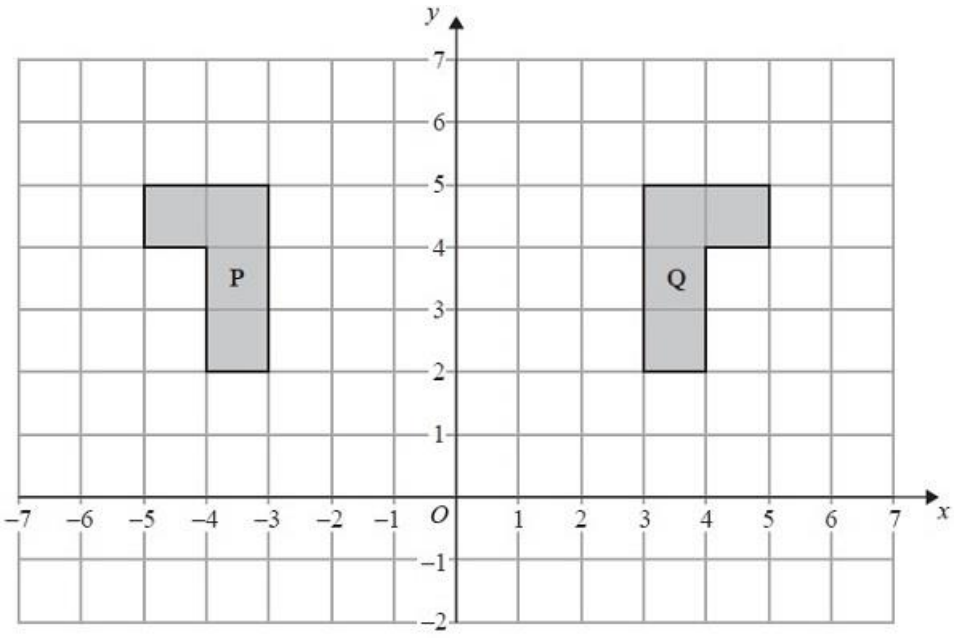
Q6.



Describe fully the single transformation which maps triangle **A** onto triangle **B.**

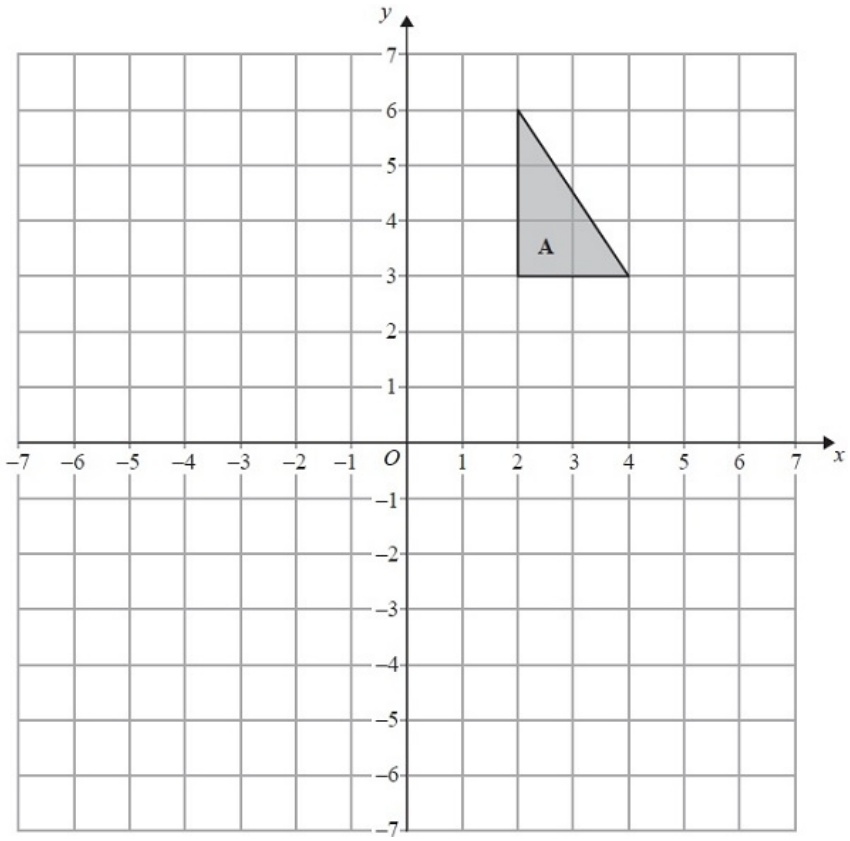
(Total for Question is 3 marks)

Q7. Two shapes are shown on the grid.



(a) Describe fully the single transformation that maps shape **P** onto shape **Q**.

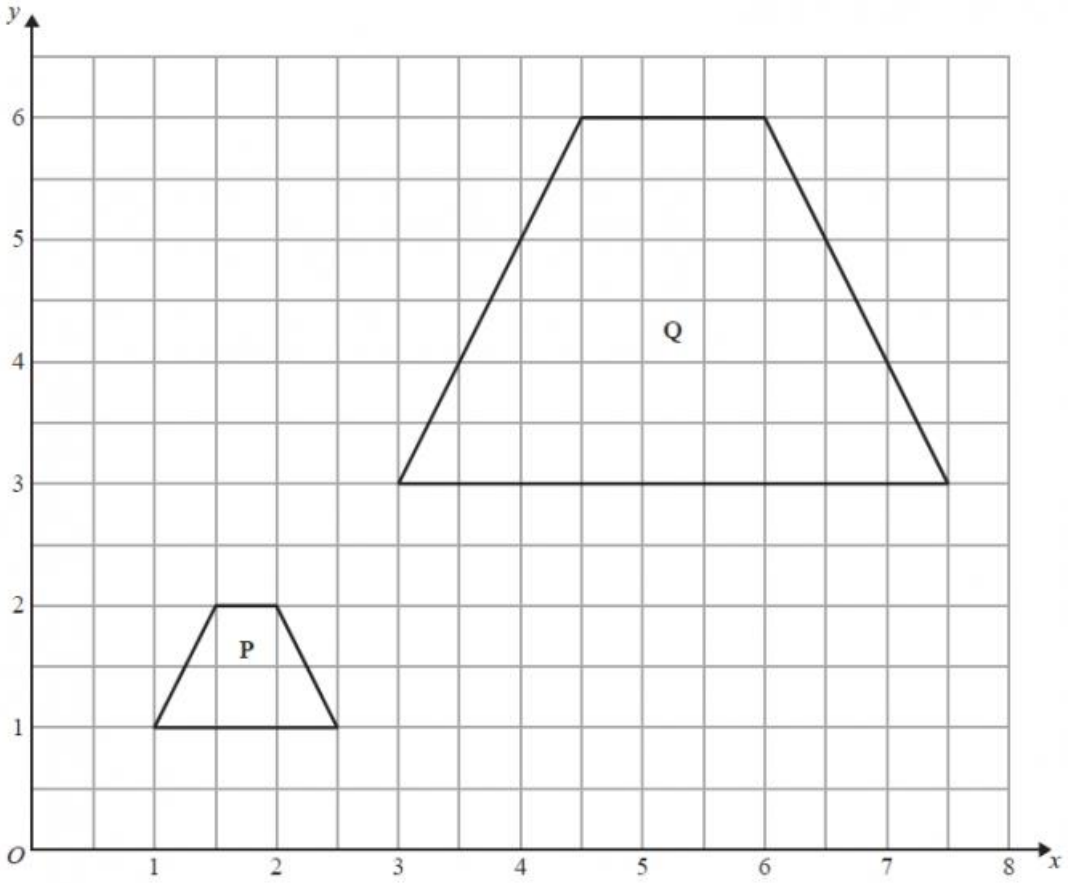
(2)



(b) Rotate triangle **A** 90° clockwise about the point (0, 2).
Label the new triangle **B**.

(2)
(Total for Question is 4 marks)

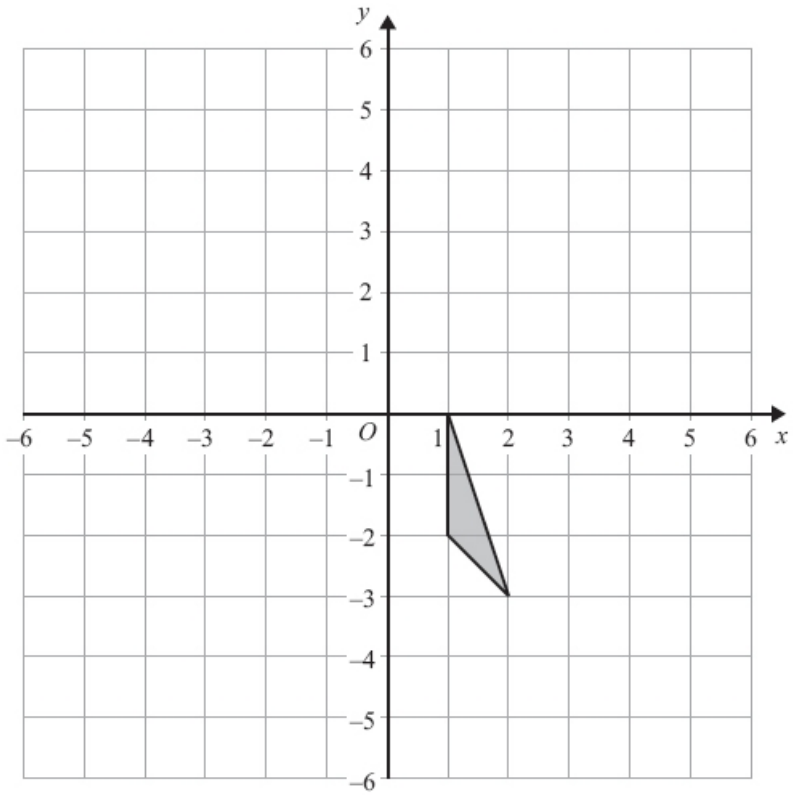
Q8.



Describe fully the single transformation that maps shape P onto shape Q.

(Total for Question is 3 marks)

Q9.



Translate the triangle by $\begin{pmatrix} -3 \\ 2 \end{pmatrix}$.

(Total for Question is 2 marks)

Q10. The diagram shows the plan of a floor.

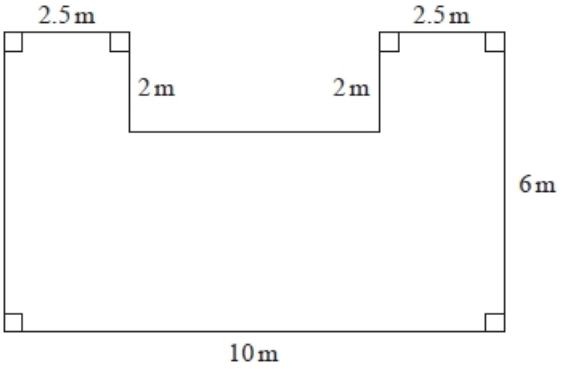


Diagram **NOT** accurately drawn

Angie is going to varnish the floor.

She needs 1 litre of varnish for 5 m^2 of floor.
There are 2.5 litres of varnish in each tin of varnish.

Angie has 3 tins of varnish.

Does she have enough varnish for all the floor? You must show all your working.

(Total for question = 5 marks)

Q11. Dan, Harry and Regan sell cars.

Dan sells x cars.
Harry sells 5 more cars than Dan.
Regan sells twice as many cars as Dan.

Write an expression, in terms of x, for the mean number of cars Dan, Harry and Regan sell.

(Total for question = 2 marks)

Q12. ABC is an isosceles triangle.

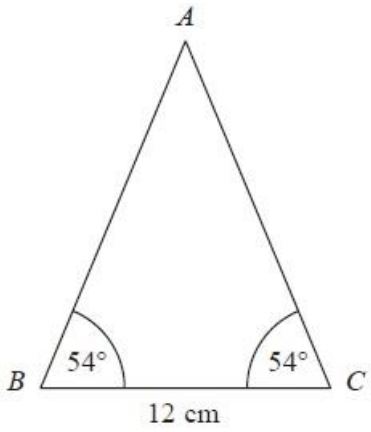


Diagram **NOT** accurately drawn

Work out the area of the triangle.

Give your answer correct to 3 significant figures.

..... cm^2

(Total for Question is 4 marks)

Q13. Work out $3\frac{1}{3} \div 4\frac{3}{4}$

(Total for Question is 2 marks)

Q14. Mr Mason asks 240 Year 11 students what they want to do next year.

15% of the students want to go to college.

$\frac{3}{4}$ of the students want to stay at school.

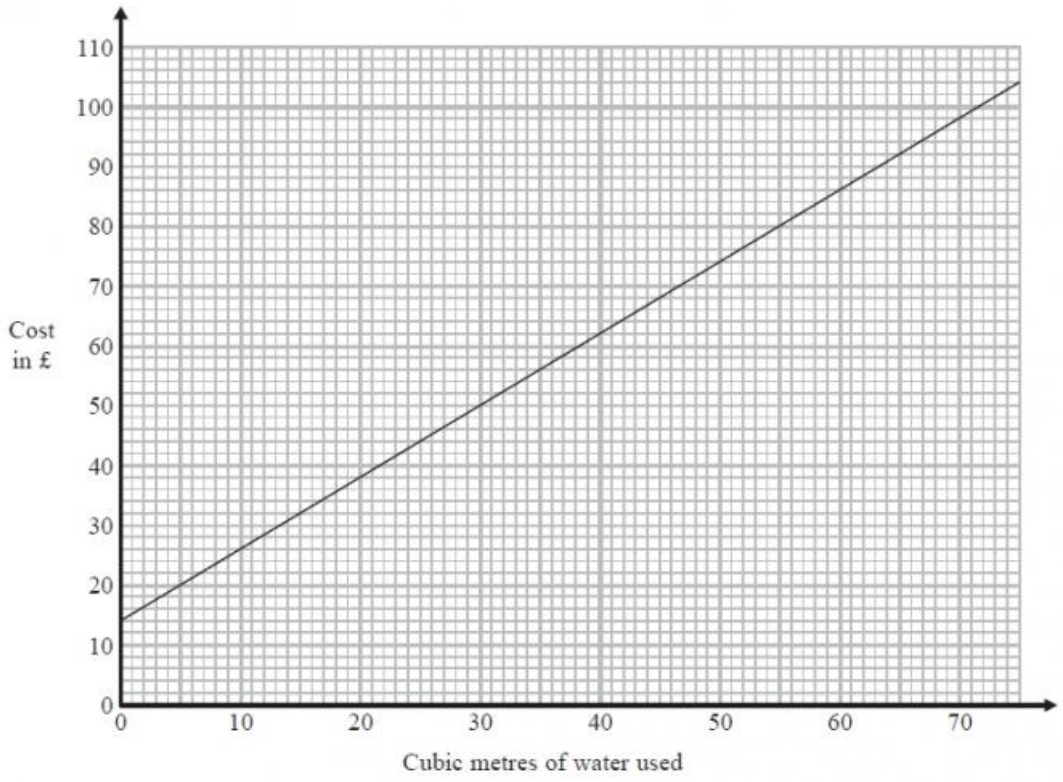
The rest of the students do not know.

Work out the number of students who do not know.

. . . . . .

(Total for Question is 4 marks)

Q15. Mr Shah is thinking of having a water meter fitted for his house.
For a house with a water meter fitted, the graph shows information about the cost, in pounds (£), of buying water.



Mr Shah does **not** have a water meter.
He used 50 cubic metres of water.

The cost was £80

Would the cost of the water have been cheaper if Mr Shah had a water meter?
You must explain your answer.

(Total for Question is 2 marks)

Q16. Manchester airport is on a bearing of 330° from a London airport.

(a) Find the bearing of the London airport from Manchester airport.

.....° **(2)**

The London airport is 200 miles from Manchester airport.

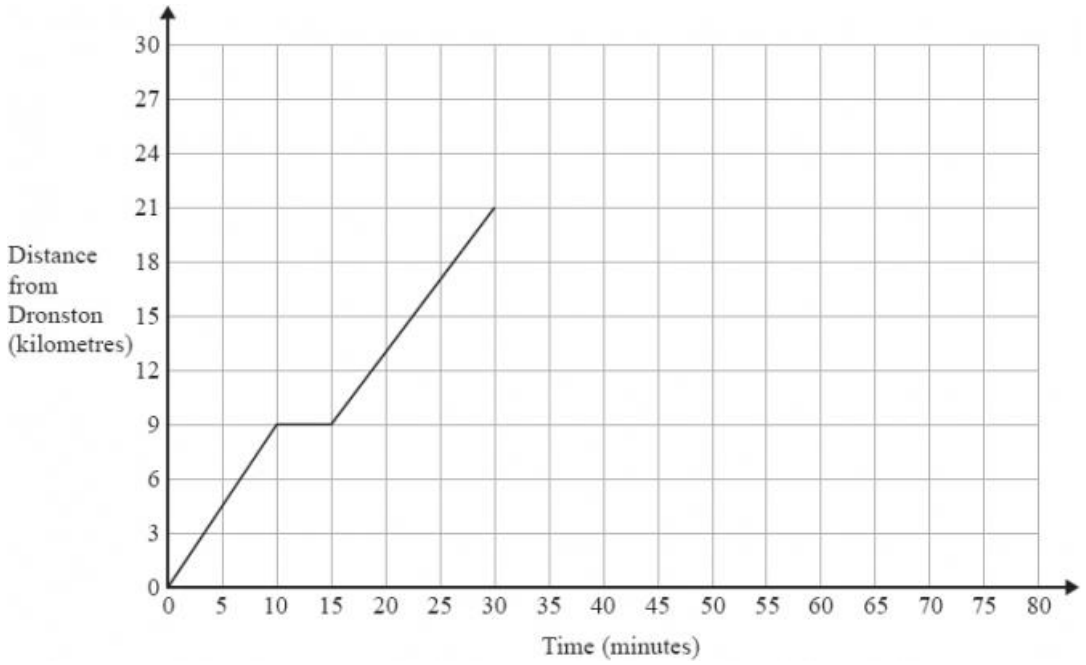
A plane leaves Manchester airport at 10 am to fly to the London airport.
The plane flies at an average speed of 120 mph.

(b) What time does the plane arrive at the London airport?

..... **(4)**

(Total for question = 6 marks)

Q17. A coach travels from Dronston to Luscoe.
The travel graph for this journey is shown below.



(a) Work out the average speed of the coach, in kilometres per hour, for the first
10 minutes of the journey.

..... km/h **(2)**

The coach stops in Luscoe for 15 minutes.
The coach then returns to Dronston at a constant speed of 42km/h.

(b) Show this information on the travel graph.

(3)

(Total for question = 5 marks)

Q18. The diagram shows a patio in the shape of a rectangle.

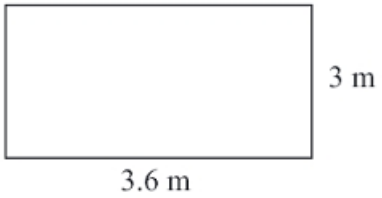


Diagram **NOT** accurately drawn

The patio is 3.6 m long and 3 m wide.

Matthew is going to cover the patio with paving slabs.
Each paving slab is a square of side 60 cm.

Matthew buys 32 of the paving slabs.

(a) Does Matthew buy enough paving slabs to cover the patio?
You must show all your working.

. . . . . **(3)**

The paving slabs cost £8.63 each.

(b) Work out the total cost of the 32 paving slabs.

£ . . . . . **(3)**

(Total for Question is 6 marks)

Q19. Harry travels from Appleton to Brockley at an average speed of 50 mph.

He then travels from Brockley to Cantham at an average speed of 70 mph.

Harry takes a total time of 5 hours to travel from Appleton to Cantham.
The distance from Brockley to Cantham is 210 miles.

Calculate Harry's average speed for the total distance travelled from Appleton to Cantham.

.....mph

(Total for Question is 4 marks)

Q20. The value of a van depreciates at the rate of 20% per year.

Gary buys a new van for £27 500
After n years the value of the van is £11 264

Find the value of n.

(Total for Question is 2 marks)

Q21. The Singh family and the Peterson family go to the cinema.

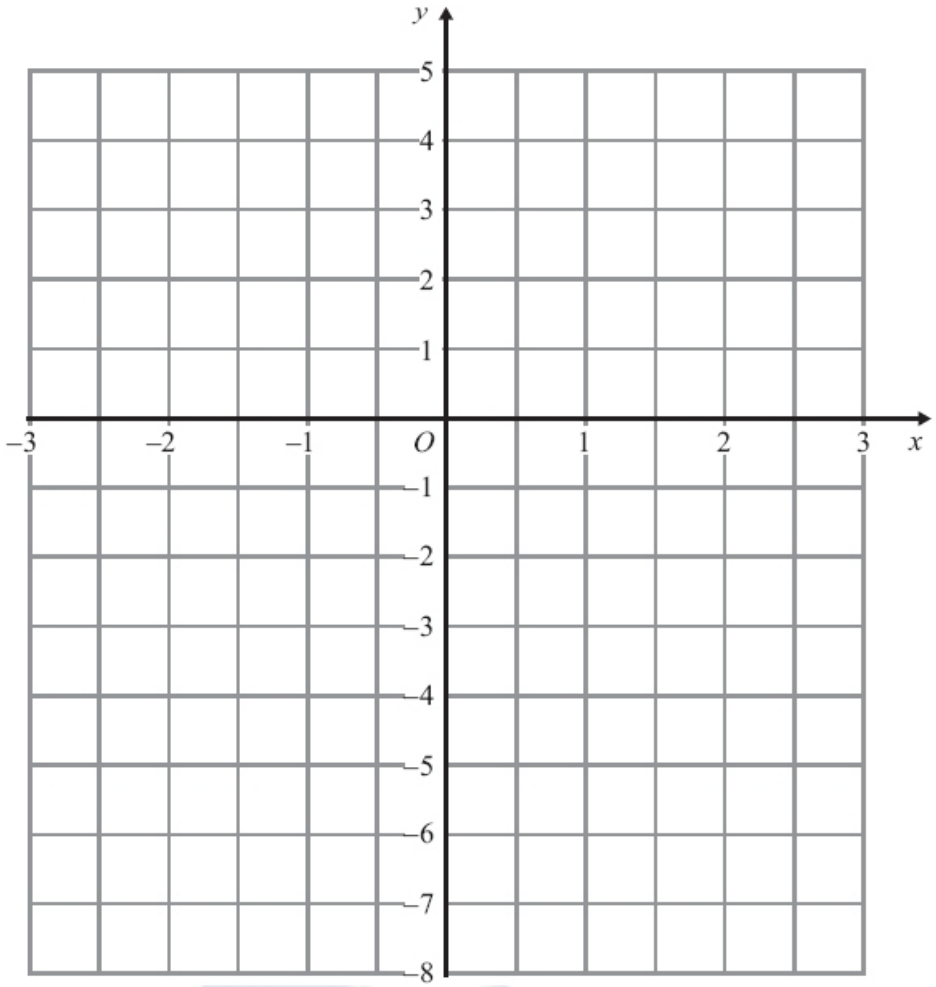
The Singh family buy 2 adult tickets and 3 child tickets.
They pay £28.20 for the tickets.

The Peterson family buy 3 adult tickets and 5 child tickets.
They pay £44.75 for the tickets.

Find the cost of each adult ticket and each child ticket.

(Total for question = 5 marks)

Q22. On the grid, draw the graph of $y = 2x - 3$ for values of x from -2 to 2



(Total for Question is 3 marks)

Q23. Make t the subject of the formula

$$p = \sqrt{\frac{3t}{a}}$$

(Total for question = 3 marks)

Q24. Shelley sells books.

On Saturday she is going to give a free book mark and a free dust cover with each book she sells.
All the books are the same size.

Shelley needs to buy the book marks and the dust covers.

Book marks come in boxes.
Each box contains 24 book marks.

Dust covers come in packs.
Each pack contains 36 dust covers.

Shelley wants to have enough book marks and dust covers for 250 books.

She buys exactly the same number of book marks and dust covers.

Work out the number of boxes of book marks and the number of packs of dust covers she buys.
You must show all your working.

..... boxes of book marks

..... packs of dust covers

(Total for question = 4 marks)

Q25.

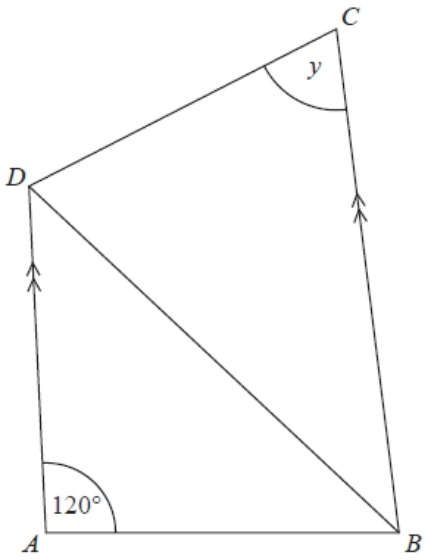


Diagram **NOT** accurately drawn

BCD and *ABD* are isosceles triangles.
AB = *AD*
BC = *BD*

AD is parallel to *BC*.

Work out the size of angle *y*.
You must give reasons for your answer.

(Total for question = 4 marks)

Q26. The diagram shows a solid prism.

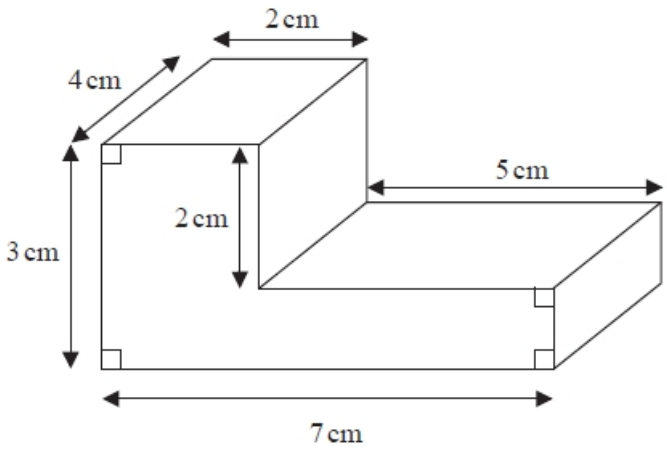
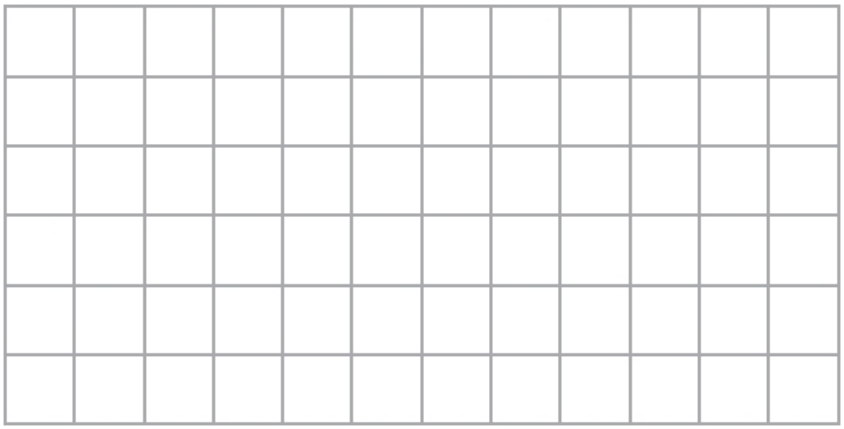


Diagram **NOT** accurately drawn

On the grid, draw an accurate plan of the solid prism.



(Total for question = 2 marks)

Q27.

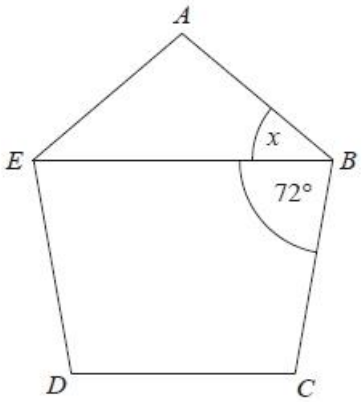


Diagram **NOT** accurately drawn

ABCDE is a regular polygon.
EB is a straight line.
Angle *EBC* = 72°.

Work out the size of the angle marked *x*.

..... °

(Total for question = 3 marks)

Q28. ξ = {1, 2, 3, 4, 5, 6, 7, 8, 9, 10}

A = {multiples of 2}

A ∩ B = {2, 6}

A ∪ B = {1, 2, 3, 4, 6, 8, 9, 10}

Draw a Venn diagram for this information.

[4]