JustMaths

BUMPER "BETWEEN PAPERS" PRACTICE PAPER

SET 1 (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	**3**		
Q2. Indices	**3**		
Q3. Inequalities	**5**		
Q4. Coordinates	**4**		
Q5. Simplify expressions	**3**		
Q6. Charts and diagrams	**4**		
Q7. Ratio	**3**		
Q8. Stem and leaf	**3**		
Q9. Reflections	**3**		
Q10. Enlargements	**3**		
Q11. Translations & rotations	**5**		
Q12. Surface Area	**3**		
Q13. Inverse operations	**3**		
Q14. Fractions	**3**		
Q15. Forming and solving equations	**5**		
Q16. Percentages	**4**		
Q17. Real life graphs	**3**		
Q18. Bearings	**2**		
Q19. Real life graphs	**2**		
Q20. Recipes	**4**		
Q21. Compound & simple interest	**4**		
Q22. Depreciation	**4**		
Q23. Simultaneous equations	**4**		
Q24. Combinations	**2**		
Q25. Straight line graphs	**4**		
Q26. Comparing distributions	**4**		
Q27. Rearranging equations	**2**		
Q28. Multiples in context	**3**		
Q29. Frequency polygons	**2**		
Q30. Angle facts	**4**		
Q31. Standard Form	**3**		
Q32. Pythagoras with trigonometry	**4**		
Q33. Plans and elevations	**4**		
Q34. Interior angles	**3**		
Q35. Probability trees	**4**		
Q36. Probability from a table	**4**		
Q37. Use of calculator	**3**		
Q38 Error intervals	**2**		
Q39. Number Properties	**1**		

129

Q1. (a) Write these numbers in order of size.

Start with the smallest number.

0.401 0.46 0.37 0.439

(1)

(b) Write these numbers in order of size.

Start with the smallest number.

75% $\frac{7}{8}$ 0.25 $\frac{1}{2}$ $\frac{2}{3}$

(2)

(Total for question = 3 marks)

Q2. (a) Simplify $a^4 \times a^3$

(1)

(b) Simplify $(b^2)^7$

(1)

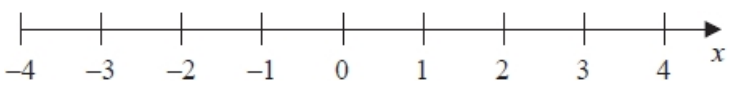
(c) Write down the value of 3^0

(1)

(Total for question = 3 marks)

Q3. (a) $x > -2$

Show this inequality on the number line.



(2)

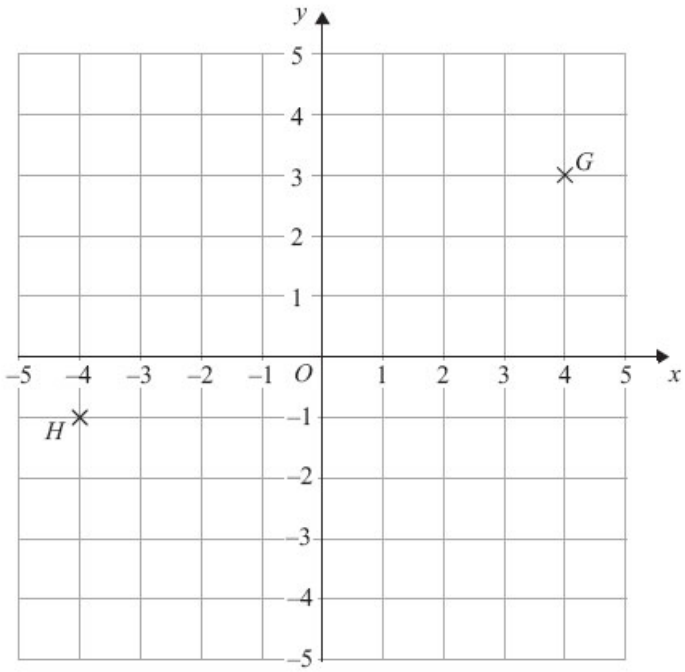
(b) Work out the greatest integer that satisfies the inequality

$4y - 1 < y + 7$

(3)

(Total for question = 5 marks)

Q4.



(a) (i) Write down the coordinates of the point *G*.

(ii) Write down the coordinates of the point *H*.

(2)

(b) Find the coordinates of the midpoint of *GH.*

(2)

(Total for Question is 4 marks)

Q5. (a) Simplify $d + d + d + d$

(1)

(b) Simplify $3f + 4 - 2f + 6$

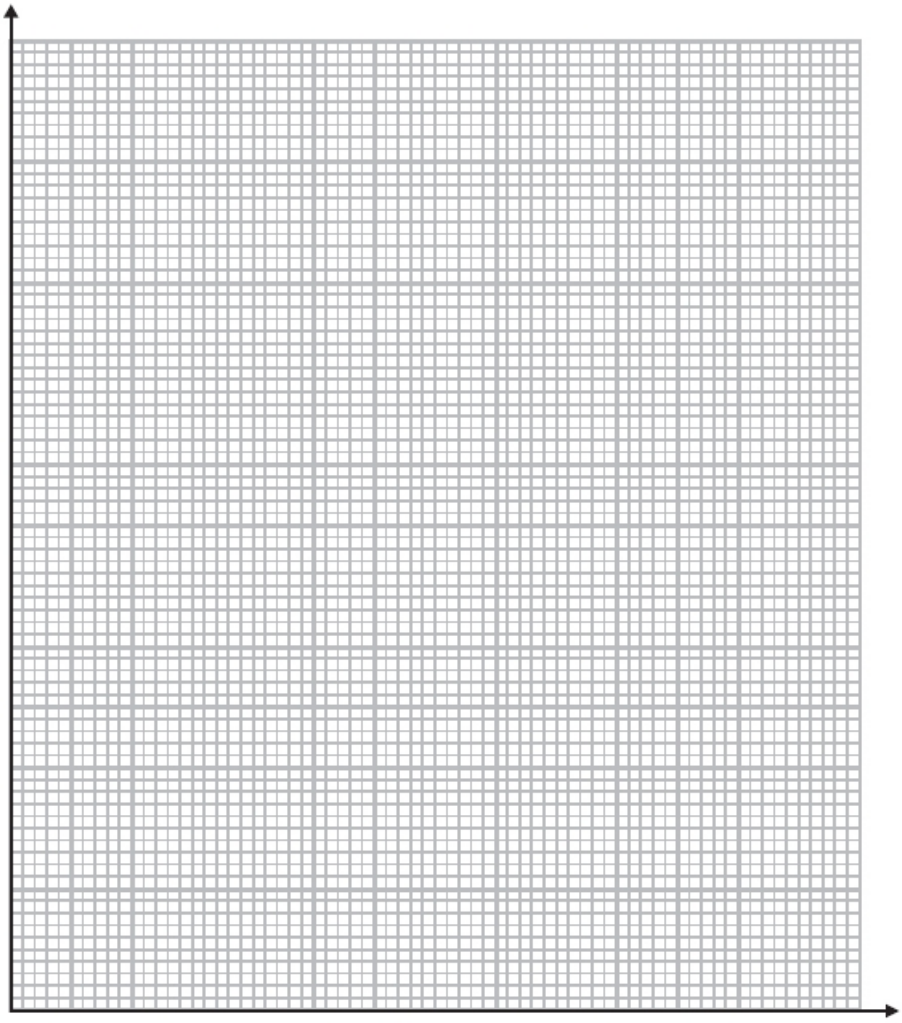
(2)

(Total for Question is 3 marks)

Q6. The table shows information about the favourite sport of some students.

Favourite sport	Men	Women
Hockey	3	6
Tennis	8	14
Football	15	7
Golf	9	1

On the grid, draw a suitable diagram to show this information.



(Total for Question is 4 marks)

Q7. Pat and Julie share some money in the ratio 2 : 5

Julie gets £45 more than Pat.

How much money did Pat get?

£. . . . . .

(Total for Question is 3 marks)

Q8. The stem and leaf diagram gives information about the numbers of tomatoes on 31 tomato plants.

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

Key: 5|7 = 57 tomatoes

(a) Work out the median.

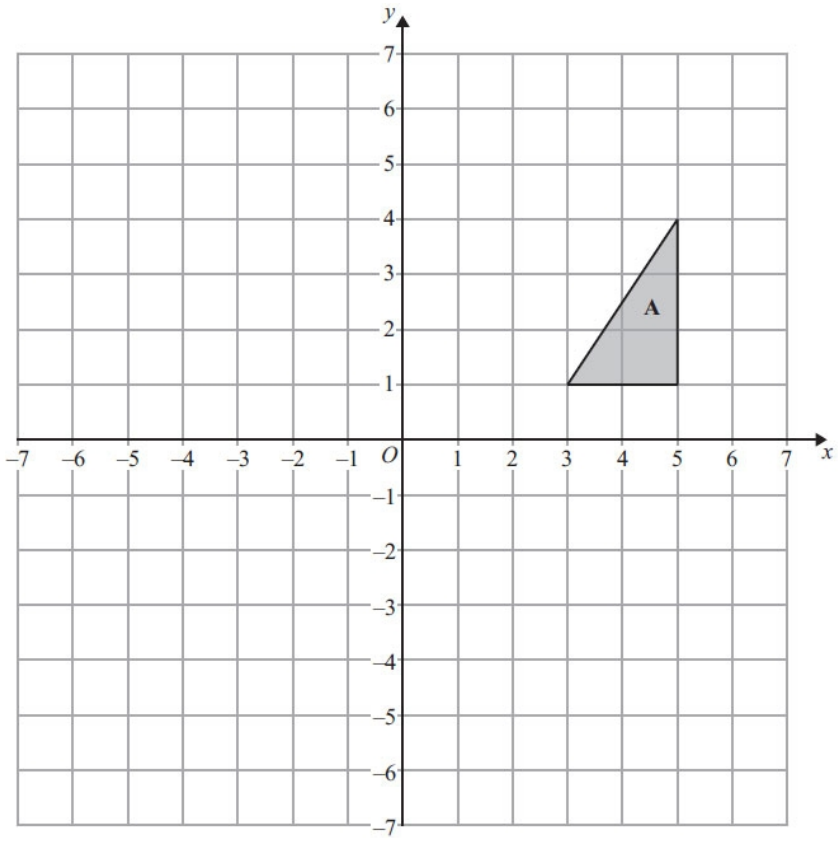
(1)

(b) Work out the interquartile range.

(2)

(Total for Question is 3 marks)

Q9.

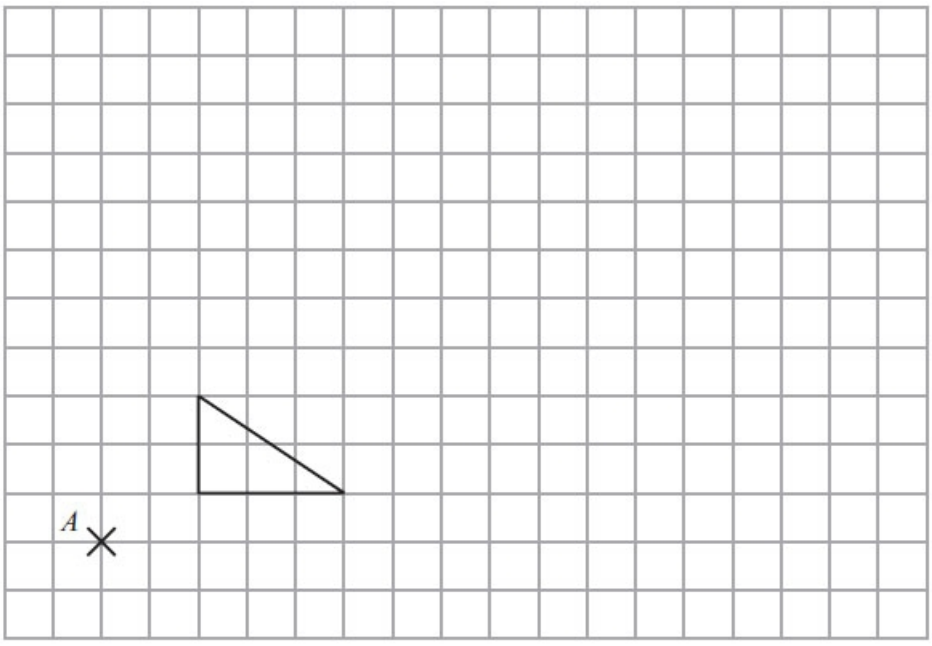


Triangle **A** is reflected in the x-axis to give triangle **B**.
Triangle **B** is then reflected in the line $x = 1$ to give triangle **C**.

Describe fully the single transformation that maps triangle **A** onto triangle **C**.

(Total for Question is 3 marks)

Q10.

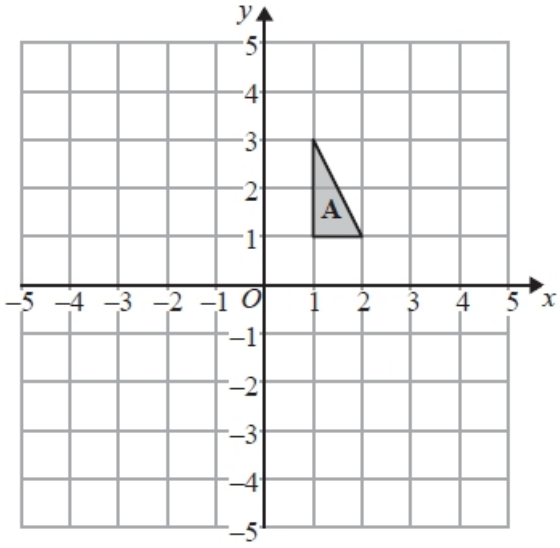


On the grid, enlarge the shape with scale factor 3, centre *A*.

(Total for Question is 3 marks)

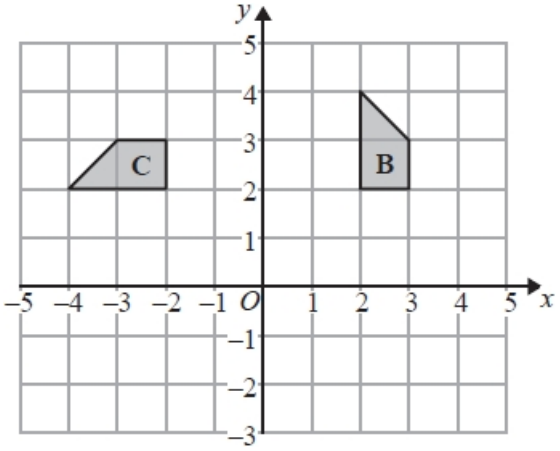
Q11.

(a) On the grid (right), translate shape **A** by the vector $\begin{pmatrix} -3 \\ -1 \end{pmatrix}$



(2)

(b) Describe fully the single transformation that maps shape **B** onto shape **C**.



(3)

(Total for question = 5 marks)

Q12. The diagram shows a triangular prism.

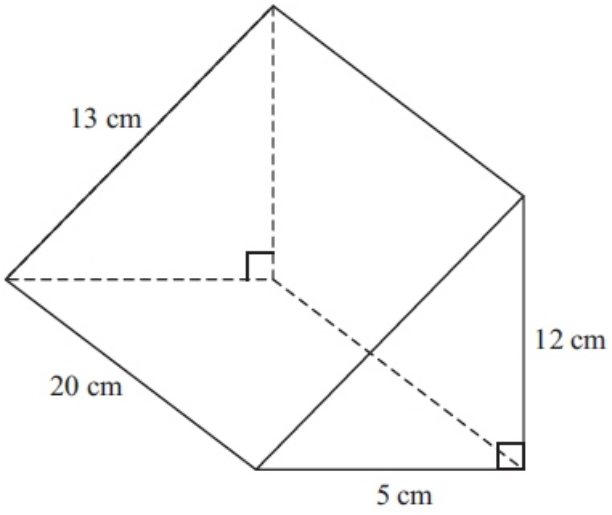


Diagram **NOT** accurately drawn

Work out the total surface area of the prism.

. . . . . cm^2

(Total for Question is 3 marks)

Q13. Freya thinks of a number.

She multiplies the number by 2 and then subtracts 10

The result is 50

What number did Freya think of ?

(Total for question = 3 marks)

Q14. Work out $3\frac{4}{5} + \frac{3}{7}$

Give your answer as a mixed number in its simplest form.

(Total for question = 3 marks)

Q15. *ABC* is a triangle.

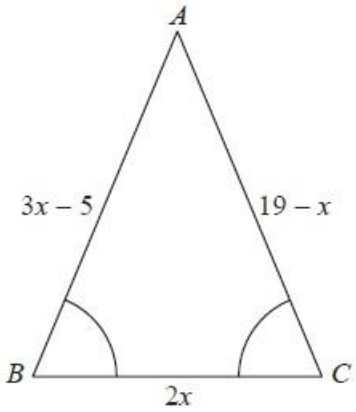


Diagram **NOT** accurately drawn

Angle *ABC* = angle *BCA*.

The length of side *AB* is $(3x - 5)$ cm.
The length of side *AC* is $(19 - x)$ cm.
The length of side *BC* is $2x$ cm.

Work out the perimeter of the triangle.

Give your answer as a number of centimetres.

..... cm

(Total for Question is 5 marks)

Q16. Debbie, Salma and Wendy did a Maths test.
The total for the test was 40 marks.

Debbie got 16 out of 40
Salma got 35% of the 40 marks.

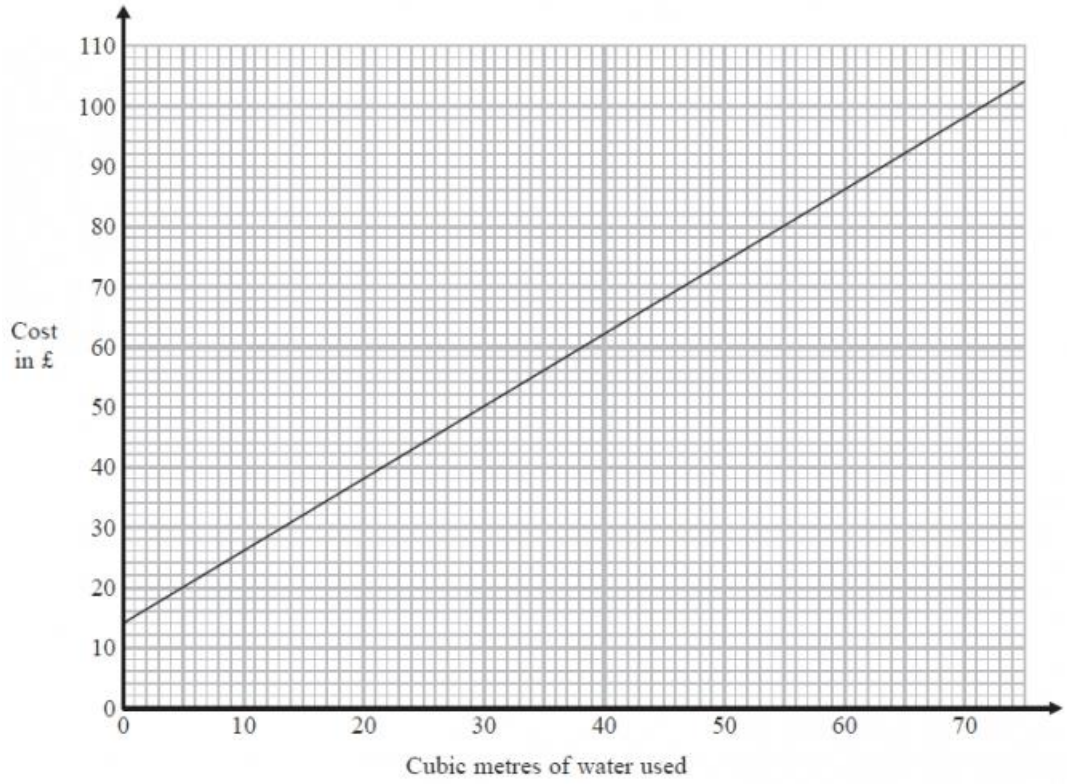
Wendy got $\frac{3}{8}$ of the 40 marks.

Who got the highest mark?
You must show all your working.

(Total for Question is 4 marks)

Q17. A water company charges customers a fixed standing charge plus an additional cost for the amount of water, in cubic metres, used.

The graph shows information about the total cost charged.



(a) Write down the fixed standing charge.

£..... **(1)**

(b) Work out the additional cost for each cubic metre of water used.

£..... **(2)**

(Total for Question is 3 marks)

Q18. The bearing of a ship from a lighthouse is 050°

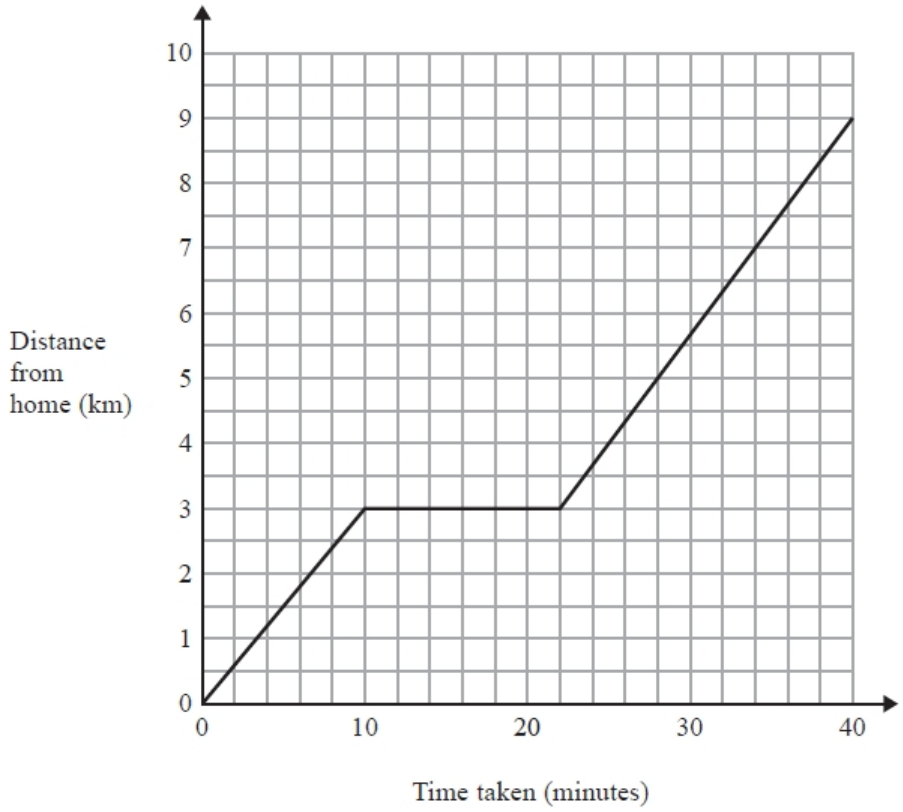
Work out the bearing of the lighthouse from the ship.

.....°

(Total for Question is 2 marks)

Q19. One day Jane cycled from home to college.
She stopped at a shop on the way to college.

The travel graph shows Jane's journey from home to college.



(a) Write down the distance from Jane's home to college.

.....km **(1)**

(b) Write down how long Jane stopped at the shop.

.....minutes **(1)**

(Total for question = 2 marks)

Q20. Here is a list of ingredients for making 18 mince pies.

Ingredients for 18 mince pies
225 g of butter
350 g of flour
100 g of sugar
280 g of mincemeat
1 egg

Elaine wants to make 45 mince pies.Elaine has

1 kg of butter
1 kg of flour
500 g of sugar
600 g of mincemeat
6 eggs

Does Elaine have enough of each ingredient to make 45 mince pies?
You must show clearly how you got your answer.

(Total for Question is 4 marks)

Q21. Here are two schemes for investing £2500 for 3 years.

Scheme A
gives £5.35 interest each month.

Scheme B
gives 3% simple interest each year.

Which scheme gives the most total interest over the 3 year period?
You must show all your working.

(Total for Question is 4 marks)

Q22 Becky buys a new car for £20 000

The value of this car will depreciate

by 15% at the end of the first year
then by 10% at the end of every year after the first year.

After how many years will the car have a value of less than £15 000?

You must show all your working.

(Total for Question is 4 marks)

Q23. Solve the simultaneous equations

$$3x + 2y = 4$$
$$4x + 5y = 17$$

x .....

y .....

(Total for Question is 4 marks)

Q24. Here is a lunch menu.

There is a choice of 2 starters.
There is also a choice of 3 main courses.

Lunch Menu			
Starter	*soup*	*pate*	
Main course	*lamb*	*beef*	*chicken*

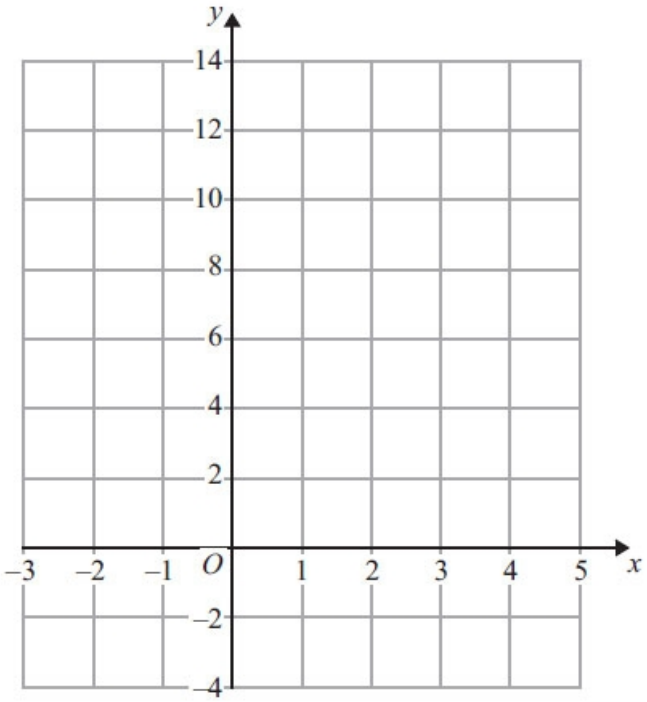
Ethan is going to choose one starter and one main course.
Write down all the possible combinations Ethan can choose.

(Total for Question is 2 marks)

Q25. (a) Complete the table of values for $y = 2x + 2$

x	−2	−1	0	1	2	3	4
y	−2				6		

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



(2)

(Total for Question is 4 marks)

Q26. There are two trays of plants in a greenhouse.
The first tray of plants was given fertiliser.
The second tray of plants was not given fertiliser.

On Monday the heights of the plants were measured in centimetres.
The boxes show some information about the heights of the plants.

Heights of the plants given fertiliser							
22	29	30	35	37	40	44	47
48	48	54	56	59	66	72	

Information about the heights of plants not given fertiliser			
Smallest	18	Lower quartile	26
Largest	64	Upper quartile	47
Median	44		

Compare the distribution of the heights of the plants given fertiliser to the distribution of the heights of the plants not given fertiliser.

(Total for Question is 4 marks)

Q27. Make h the subject of the formula $x = 5h + 8$

(Total for Question is 2 marks)

Q28. Tom and Amy set the alarms on their phones to sound at 6.45 am.

Both alarms sound together at 6.45 am.
Tom's alarm then sounds every 9 minutes.
Amy's alarm then sounds every 12 minutes.

At what time will both alarms next sound together?

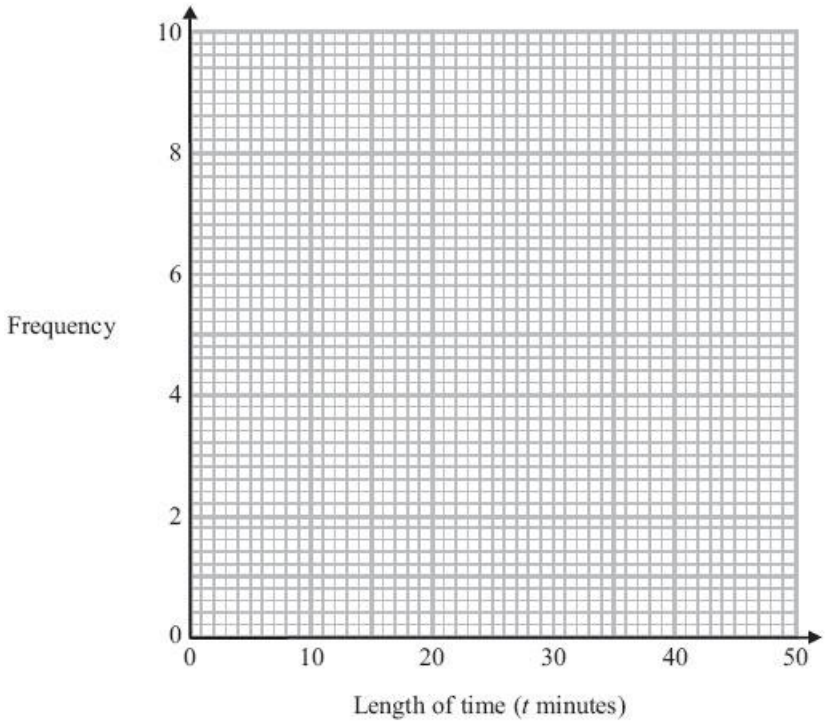
.....

(Total for question = 3 marks)

Q29. Helen went on 35 flights in a hot air balloon last year. The table gives some information about the length of time, t minutes, of each flight.

Length of time (t minutes)	Frequency
$0 < t \leqslant 10$	6
$10 < t \leqslant 20$	9
$20 < t \leqslant 30$	8
$30 < t \leqslant 40$	7
$40 < t \leqslant 50$	5

On the grid below, draw a frequency polygon for this information.



(Total for Question is 2 marks)

Q30.

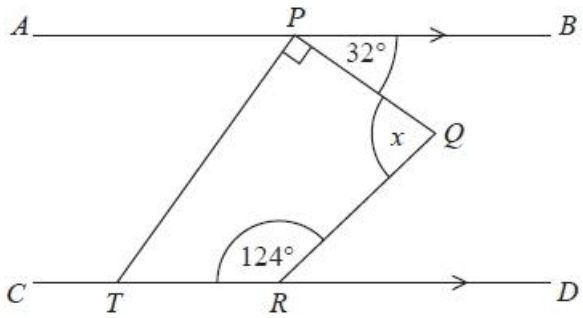


Diagram **NOT** accurately drawn

APB is parallel to *CTRD*.
PQRT is a quadrilateral.

Work out the size of the angle marked *x*.
You must show your working.

..... °

(Total for question = 4 marks)

Q31. (a) Write 640 000 000 in standard form.

(1)

(b) Work out $(3 \times 10^7) \div (6 \times 10^4)$
Give your answer in standard form.

(2)

(Total for question = 3 marks)

Q32.

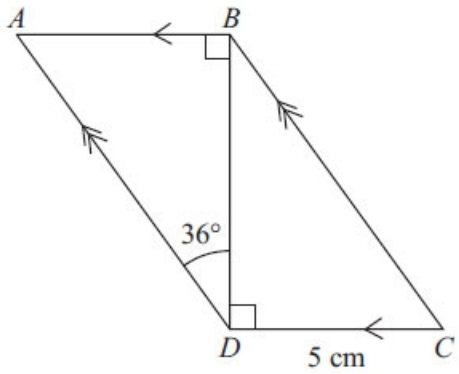


Diagram **NOT** accurately drawn

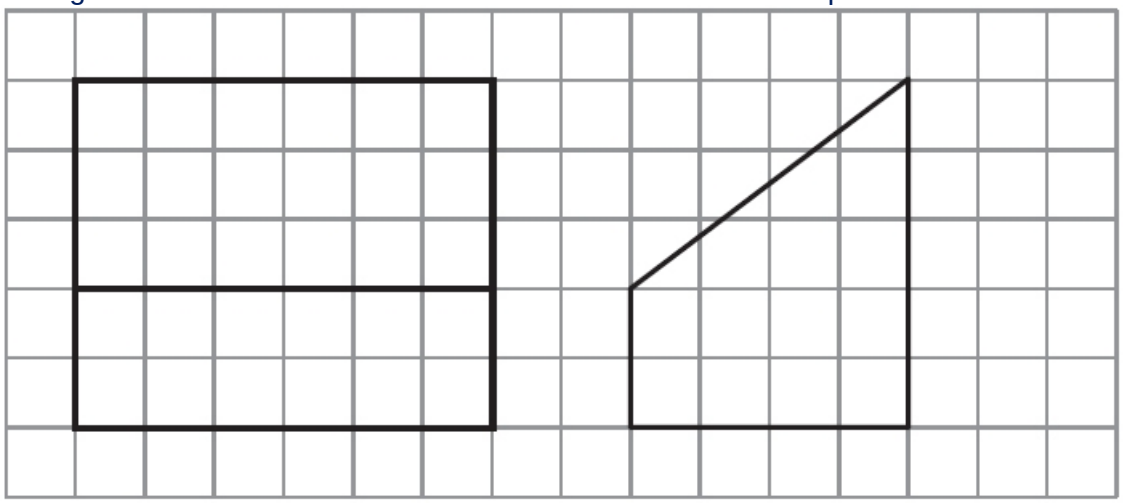
ABCD is a parallelogram.

DC = 5 cm
Angle *ADB* = 36°

Calculate the length of *AD*.
Give your answer correct to 3 significant figures.

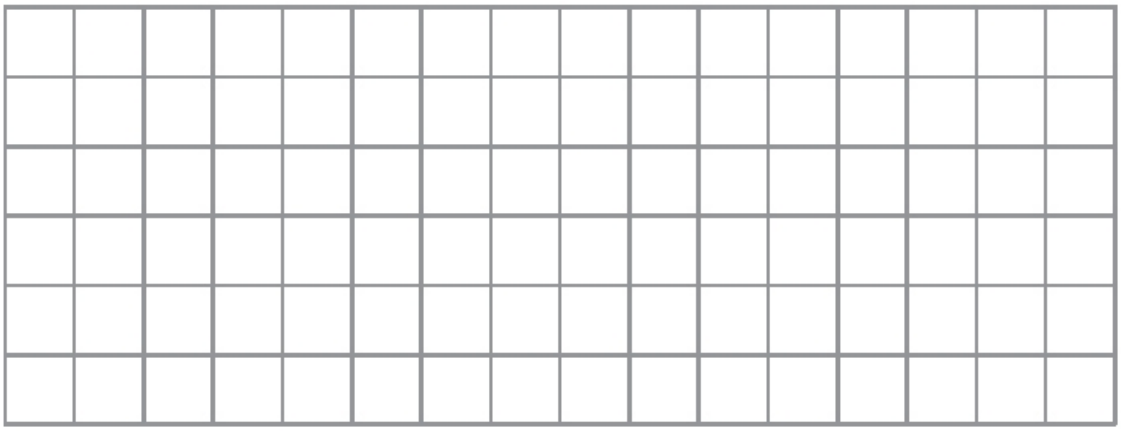
(Total for Question is 4 marks)

Q33. The diagram shows the front elevation and the side elevation of a prism.



Front elevation Side elevation

(a) On the grid, draw a plan of this prism.



(2)

(b) In the space below, draw a sketch of this prism.

(2)

(Total for Question is 4 marks)

Q34.. The diagram shows two regular shapes.

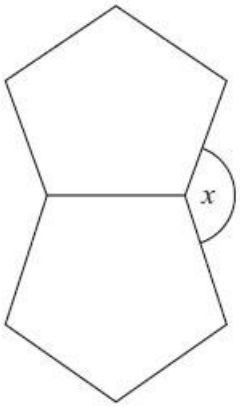


Diagram **NOT** accurately drawn

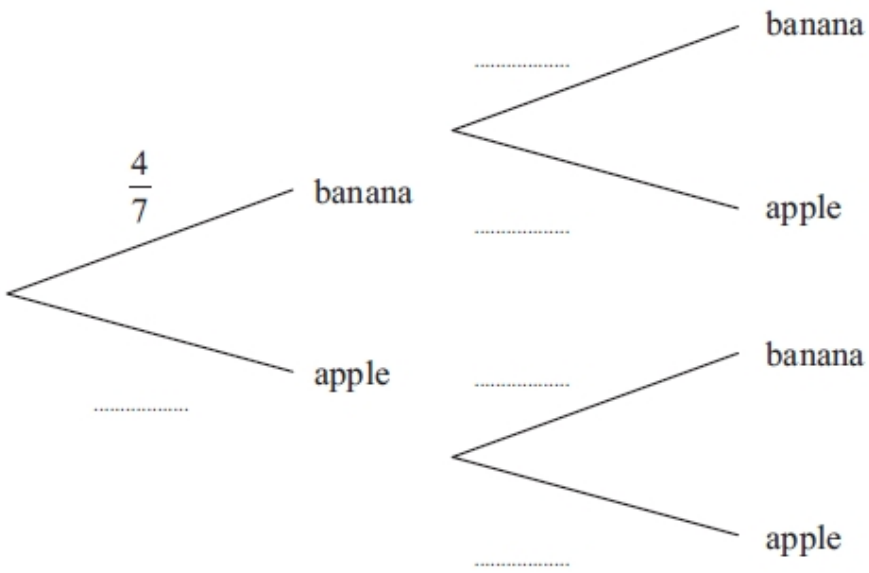
Work out the size of the angle marked x.

(Total for Question is 3 marks)

Q35. There are 4 banana smoothies and 3 apple smoothies in a box.

Jenny takes at random 1 smoothie from the box.
She writes down its flavour, and puts it back in the box.
Jenny then takes at random a second smoothie from the box.

(a) Complete the probability tree diagram.



(2)

(b) Work out the probability that both smoothies are apple flavour.

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

(Total for Question is 4 marks)

Q36. There are yellow discs, red discs, blue discs and green discs in a bag.

Dinesh is going to take at random a disc from the bag.

The table shows each of the probabilities that Dinesh will take a red disc, or a blue disc, or a green disc.

Colour	yellow	red	blue	green
Probability		0.40	0.25	0.15

(a) Work out the probability that he will take a yellow disc.

(2)

Dinesh takes at random a disc from the bag.
He writes down the colour of the disc.
He puts the disc back into the bag.

He will do this 60 times.

(b) Work out an estimate for the number of times he takes a red disc from the bag.

(2)
(Total for Question is 4 marks)

Q37. Use your calculator to work out $\dfrac{\sqrt{2.5^2 + 3.75}}{3.9 - 1.7}$

Write down all the figures on your calculator display.

You must give your answer as a decimal.

(2)

(a) Write your answer to part (a) correct to 2 decimal places.

..... (1)

Q38. Jim rounds a number, x, to one decimal place.

The result is 7.2

Write down the error interval for x.

…..... [2]

Q39 Write down the 17th odd number.

.....

(Total for Question is 1 mark)