

## Paper 2 and Paper 3 Predictions

Edexcel - Foundation  
High Chance



Corbettmaths

Ensure you have: Pencil, pen, ruler, protractor, pair of compasses and eraser

You will need a calculator

### Guidance

1. Read each question carefully before you begin answering it.
2. Don't spend too long on one question.
3. Attempt every question.
4. Check your answers seem right.
5. Always show your workings

Revision for this test

[www.corbettmaths.com/contents](http://www.corbettmaths.com/contents)



Question	Topic	Video number
1	Ordering Decimals	95
2	Square numbers and square roots	220, 216
3	Cube numbers and cube roots	212, 214
4	Fractions of Amounts	137
5	Fractions, Decimals, Percentages	121 to 129
6	Rounding to Significant Figures	279a
7	Probability	245, 246, 248
8	Perimeter	241
9	Nets	4
10	Faces, Edges, Vertices	5, 3
11	Views and Elevations	354
12	Surface Area	310
13	Area of a Trapezium	48
14	Distance Charts	318
15	Timetables	320
16	Parts of a Circle	61
17	Circumference	60
18	Line Graphs	160
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20	Forming Expressions	16
21	Expanding Brackets	13, 14
22	Volume of a Cylinder	357
23	Arc Length	58
24	Area of a Sector	46
25	Similar Shapes	292
26	Loci	75, 76, 77
27	Density	384
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29	Volume of a Sphere or Cone	359, 361

Question	Topic	Video number
30	Sequences	286, 287, 290
31	Equations with letters on both sides	113
32	Forming and Solving Equations	114
33	Forming and Solving Equations	115
34	Conversion Graphs	151
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36	Quadratic Graphs	264
37	Cubic Graphs	344
38	Reciprocal Graphs	346
39	$y = mx + c$	191

1. Write the following numbers in order of size.  
Start with the smallest number.

0.42      0.4      0.415      0.48      0.469

.....  
(1)

2. Calculate  $\sqrt{62.41}$

.....  
(1)

3. 729 is both a square number and a cube number.

Find two other numbers that are both square numbers and cube numbers.

..... and .....  
(2)

4. In January a baby elephant weighs 180kg.

By March the weight of the baby elephant had increased by  $\frac{3}{8}$ .

Work out the weight of the baby elephant in March.

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

5. Complete the table.

Fraction	Decimal	Percentage
		85%
	0.12	
$\frac{23}{25}$		

**(4)**

6.



Holly has worked out the answer to a calculation.

Her teacher has told her to write all her answers to four significant figures.

Round her answer to four significant figures

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

7. A rugby team can win, draw or lose a match.  
The table shows the probabilities of each result.

Result	Win	Draw	Lose
Probability	0.4	0.35	

- (a) Calculate the missing probability in the table.

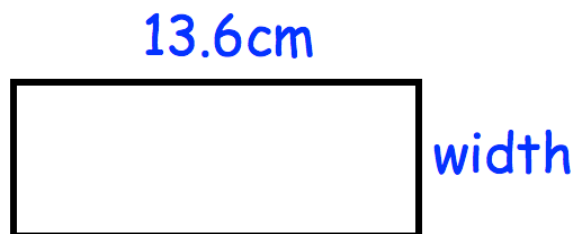
.....  
(2)

Each win is worth 2 points.  
Each draw is worth 1 point.  
Each loss is worth 0 points.  
The rugby team plays 20 games in a season.

- (b) Work out how many points the rugby team should receive in one season.

.....  
(3)

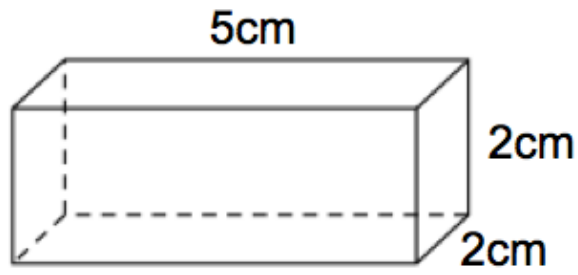
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8. The length of a rectangle is 13.6 cm  
The perimeter of the rectangle is 37.8cm



Calculate the width of the rectangle.

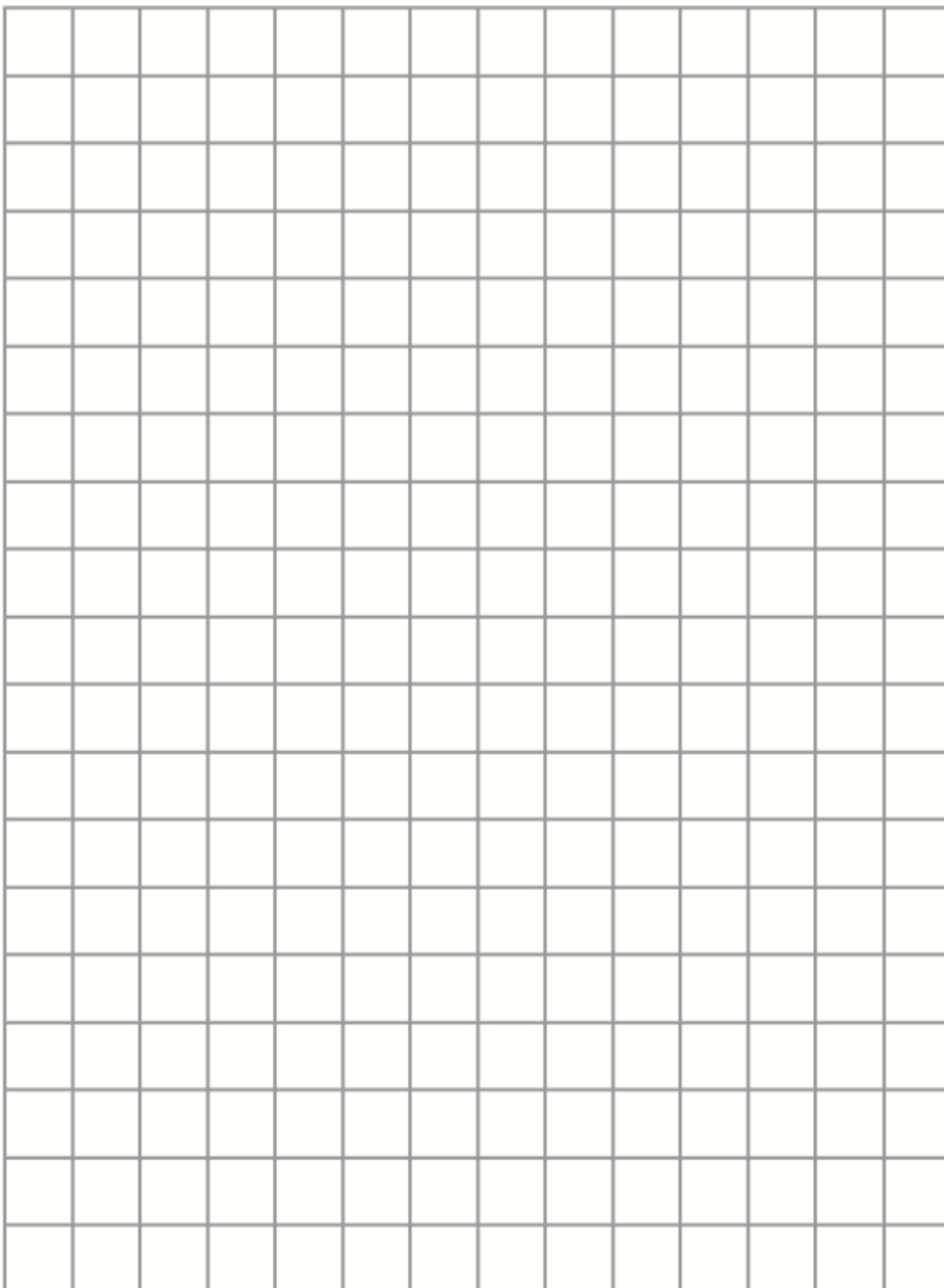
.....cm  
(3)

9. Shown below is a cuboid.

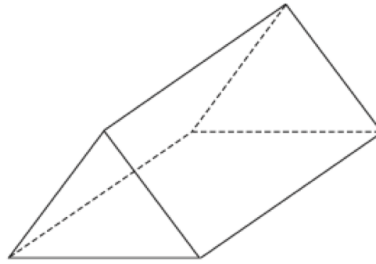


Draw a net for the cuboid.

Each square represents  $1\text{cm}^2$



10. Below is a solid shape.



(a) What is the mathematical name for the shape?

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

(b) Write down the number of vertices

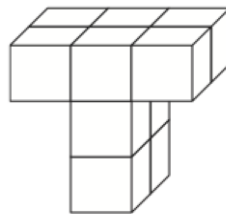
.....  
**(1)**

(c) Write down the number of faces

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

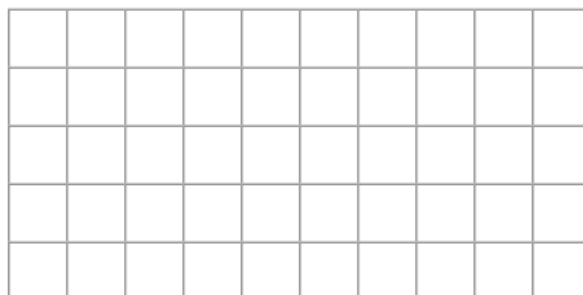
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11. Shown below is a solid shape made from centimetre cubes.



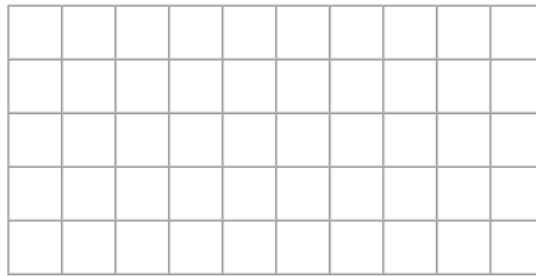
  
**Front**

(a) On the centimetre square grid, draw the front elevation.



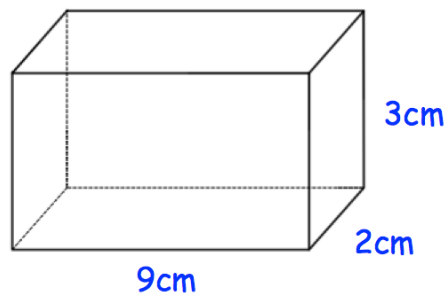
**(2)**

(b) On the centimetre square grid, draw the plan view.



(2)

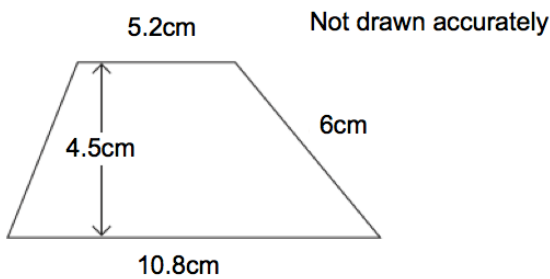
12. Shown below is solid cuboid.



Work out the total surface area of the cuboid.

.....cm<sup>2</sup>  
(3)

13.



Calculate the area of the trapezium.

.....cm<sup>2</sup>  
(2)



14.

Foxtown			
52	Sandcliff		
70	32	Red Island	
31	14	28	Donhampton

The table shows the distances in miles by road between some towns.

(a) Write down the distance between Red Island and Foxtown

..... miles  
**(1)**

(b) Write down the names of the two towns which are the least distance apart.

..... and .....

**(1)**

Martin lives in Foxtown.

He works in Donhampton.

Martin drives to work in the morning and back home in the evening.

He works Monday to Friday.

(c) Work out how many miles Martin drives each week.

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

15. Here is part of a timetable for a bus.

Southville	09 18	10 38	12 05
Leek	09 28	10 48	-----
Milton	09 41	11 01	-----
Newtown	09 49	11 09	-----
Red Island	09 55	11 15	12 36
Sandville	10 13	11 33	-----
Bakerstown	10 31	11 51	13 00

A bus leaves Southville at 10 38

(a) At what time should the bus arrive at Newtown?

.....  
(1)

(b) How long will the journey take?

.....minutes  
(1)

James arrives at the Milton bus stop at 09 29.  
He waits for the next bus to Red Island.

(c) (i) How many minutes should he wait?

.....minutes  
(1)

(ii) At what time should James arrive at Red Island?

.....  
(1)

Sally wants to travel from Southville to Bakerstown.  
The 12 05 is an 'express' bus.

(d) How many minutes shorter is the journey if she takes the 'express bus'?

.....minutes  
(2)

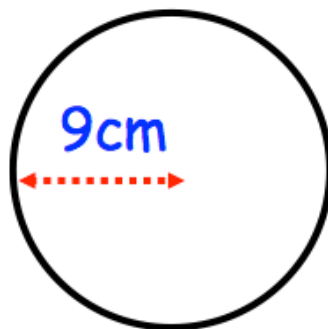
16. Here are 6 diagrams and 6 labels.  
In the diagram the centre of the circle is shown with a dot.

Match each diagram to its label.  
One has been done for you.

Label	Diagram
Circle and radius	
Circle and segment	
Circle and arc	
Circle and diameter	
Circle and tangent	
Circle and chord	

(4)

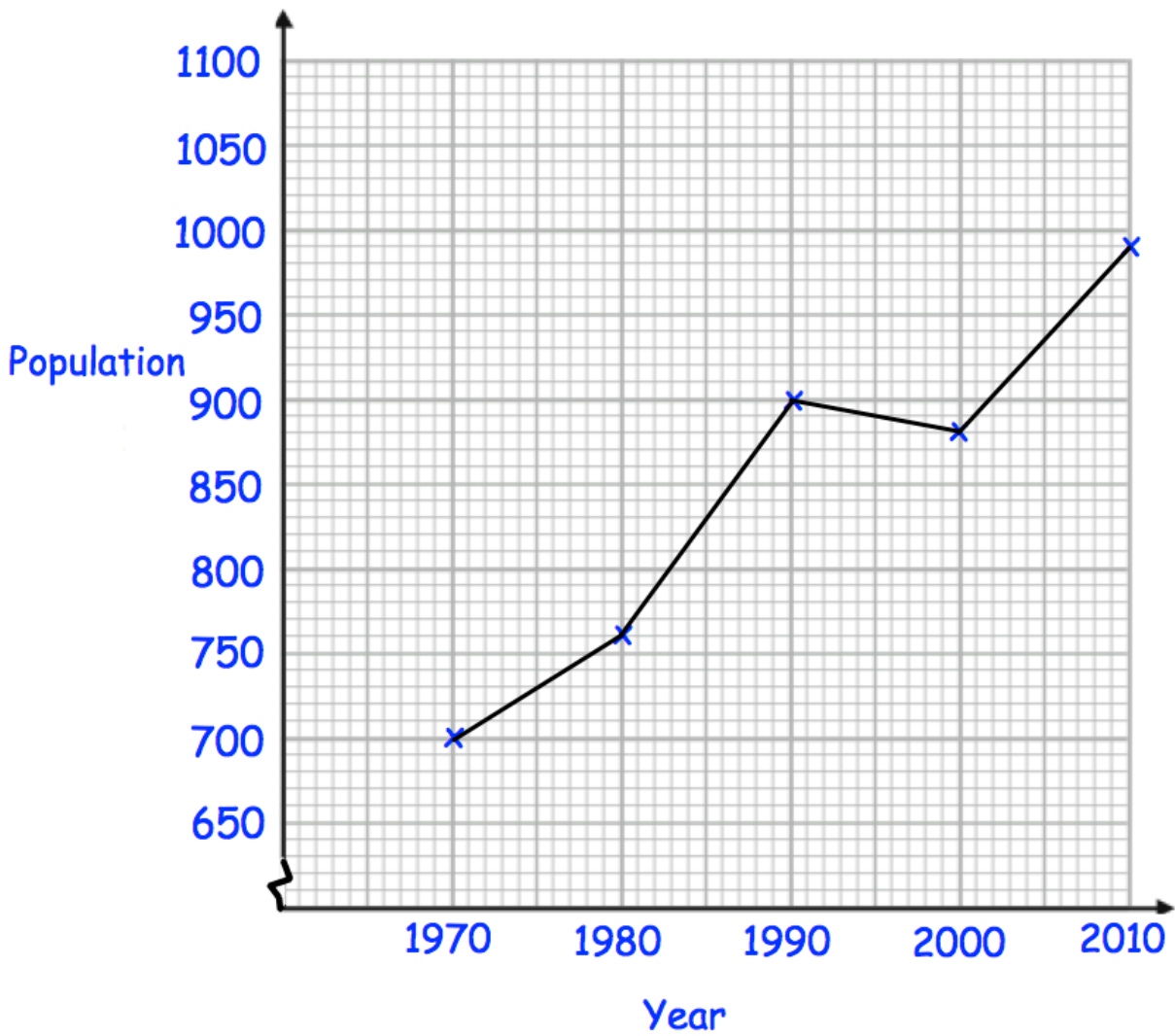
17. Shown below is a circle with radius 9cm.



Work out the circumference of the circle.  
Give your answer to 1 decimal place.

.....cm  
(2)

18. Below is a line graph that shows the population of a village.



(a) What was the population in 1980?

.....  
(1)

(b) In which year was the population 700?

.....  
(1)

The population is expected to increase by 120 by 2020.

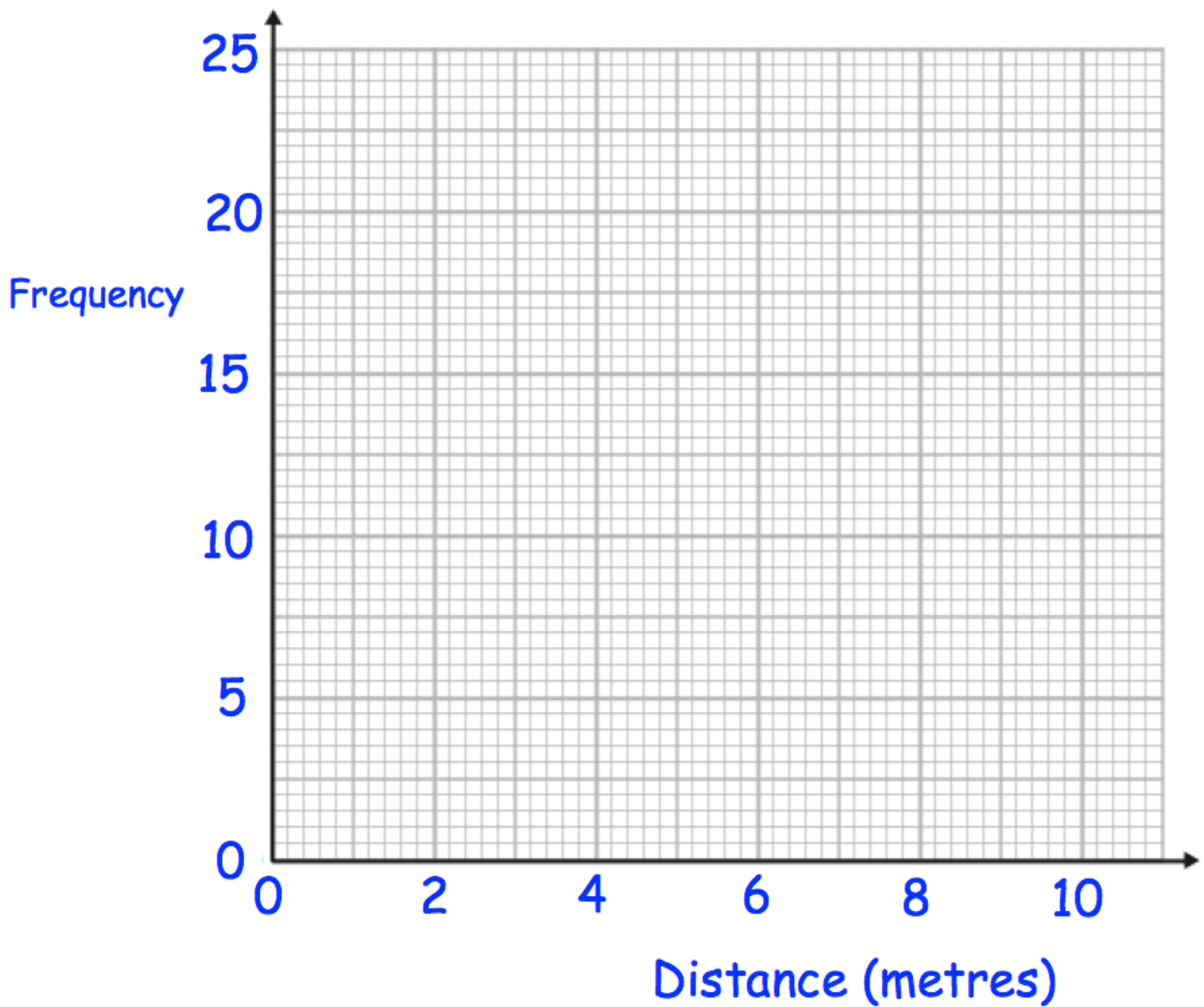
(c) Work out the expected population in 2020.

.....  
(2)

19. The table gives information about the distances thrown, in metres, at a school sports day.

Time (seconds)	Frequency
$0 < d \leq 2$	5
$2 < d \leq 4$	10
$4 < d \leq 6$	21
$6 < d \leq 8$	18
$8 < d \leq 10$	1

Draw a frequency polygon for the information in the table.



(2)

20. In one week, Gina spent  $x$  minutes on the internet.  
Sammy spent 15 minutes less than Gina.

(a) Write down an expression for how long Sammy spent on the internet.

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

Neil spent three times as long as Gina on the internet.

(b) Write down an expression for how long Neil spent on the internet.

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

(c) Write down an expression for total time spent on the internet.

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

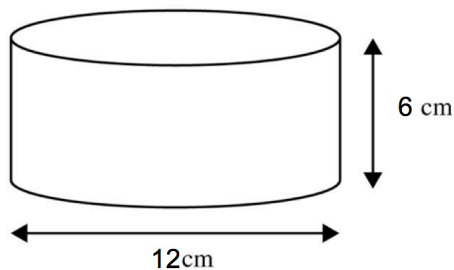
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21. Expand  $5y(2y + 1)$

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

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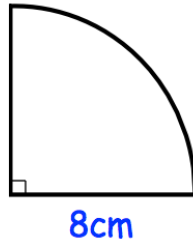
22. Shown below is a cylinder.



Calculate the volume.  
Give your answer to 1 decimal place.

.....  $\text{cm}^3$   
**(3)**

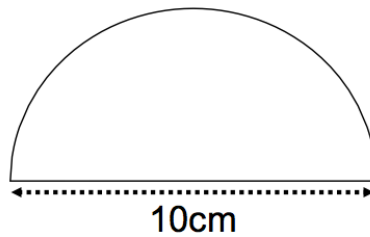
23.



Calculate the perimeter of the sector.

.....cm  
(2)

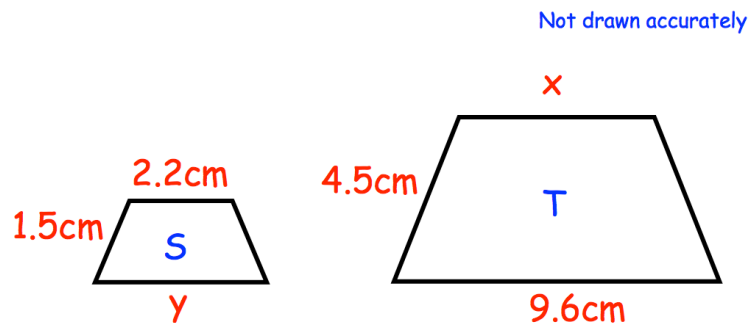
24. Shown is a semi-circle.



Work out the area.  
State the units for your answer.

.....  
(3)

25. Trapezium S and trapezium T are similar.



Find the size of  $x$ .

.....cm  
(2)

26. The diagram shows two lighthouses.

A boat is within than 8 miles of lighthouse A.

The same boat is within 6 miles of lighthouse B.

Shade the possible area in which the boat could be.



(2)



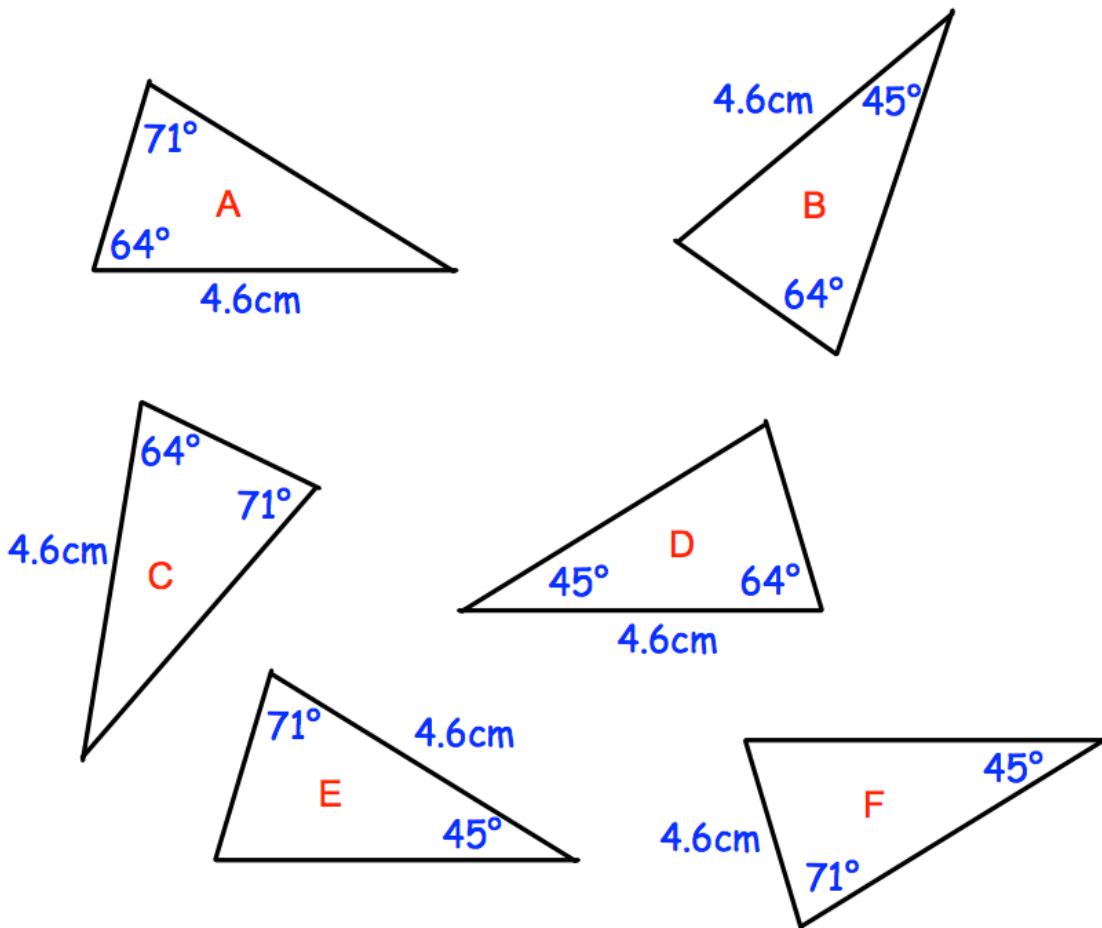
27.

A solid silver spoon has a mass of 65.1g.  
The volume of the spoon is 6.2cm<sup>3</sup>.  
Calculate the density of silver.

.....g/cm<sup>3</sup>  
(2)

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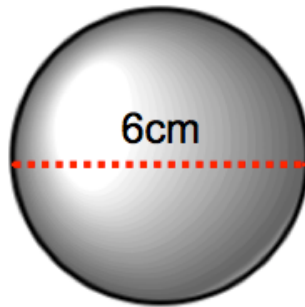
28. Shown below are six triangles that are not drawn accurately.



Which two triangles are congruent to triangle A?

..... and .....  
(2)

29. Shown is a sphere with diameter 6cm.



Calculate the volume of the sphere.

.....cm<sup>3</sup>  
**(3)**

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30. Here are the first four terms of a number sequence.

7    10    13    16

Work out the difference between the 10th term and 15th term in the sequence.

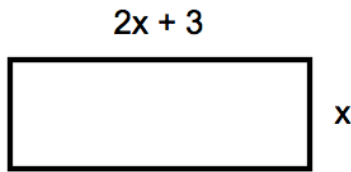
.....  
**(2)**

---

31. Solve     $7w + 3 = 5w + 9$

$w =$  .....  
**(2)**

32. Below is a rectangle, with width  $x$  cm and length  $2x + 3$  cm.



The perimeter of the rectangle is 72cm.

Calculate the size of the width and length.

Width = .....cm

Length = .....cm  
**(4)**

33. Sarah is  $x$  years old.  
Thomas is 3 years older than Sarah.  
David is twice as old as Sarah.  
The total of their ages is 51.

(a) Write an expression for Thomas's age in terms of  $x$ .

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

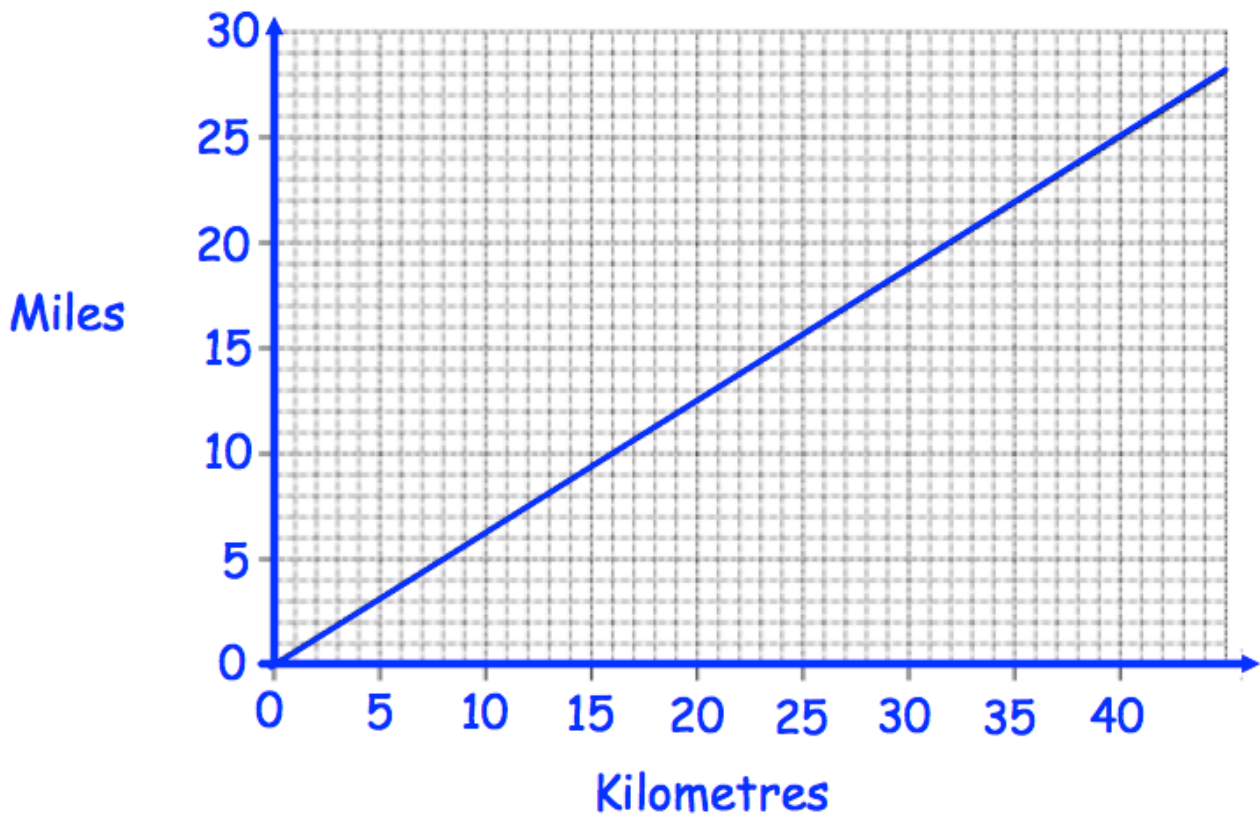
(b) Write an expression for David's age in terms of  $x$ .

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

(c) Form an equation in  $x$  and solve it to work out Sarah's age.

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

34. A conversion graph for kilometres and miles is shown.



(a) Use the graph to convert 40 kilometres to miles.

.....miles  
(1)

(b) Use the graph to convert 10 miles to kilometres.

.....kilometres  
(1)

(c) Convert 200 kilometres to miles.

.....miles  
(2)

35. Make  $w$  the subject of the formula

$$y = 3w - a$$

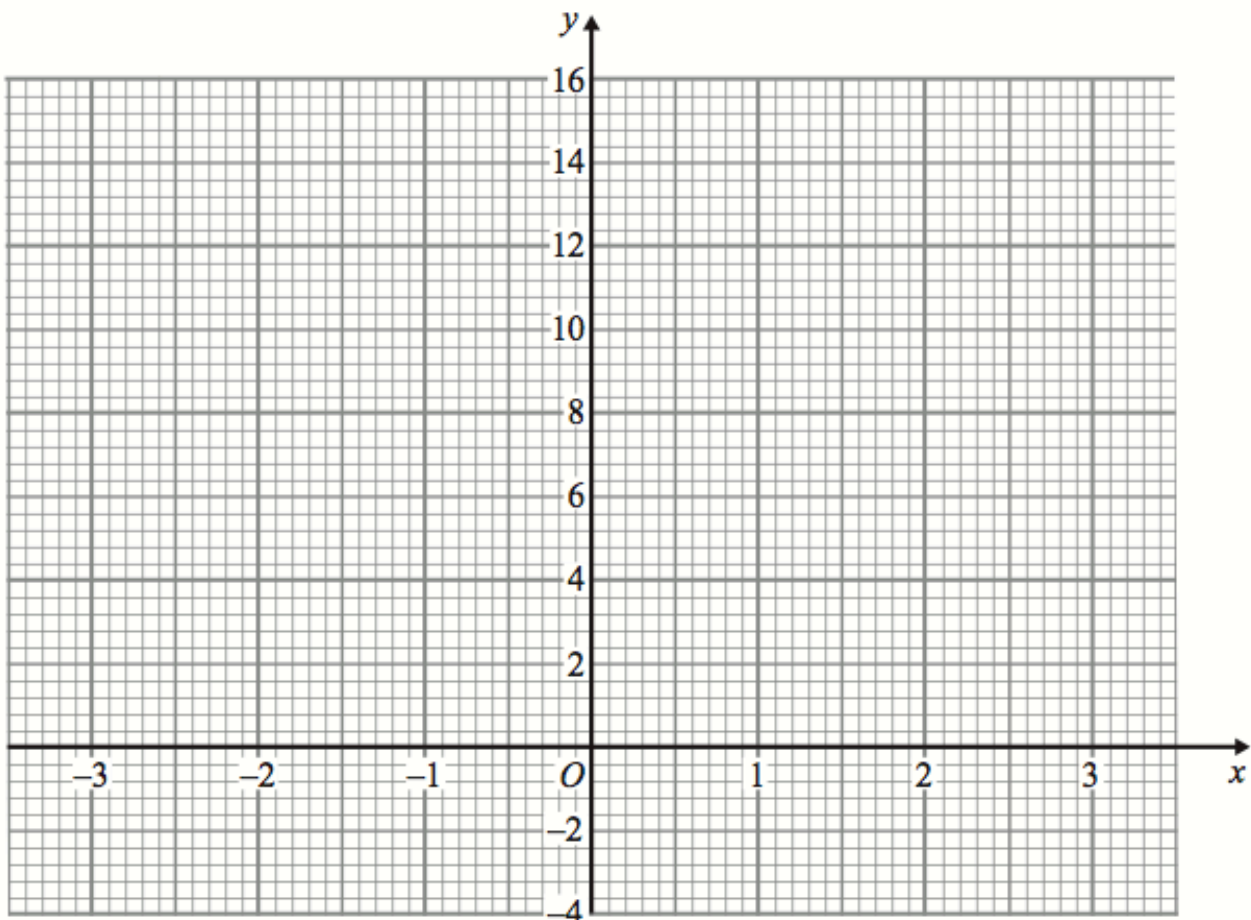
$w = \dots\dots\dots$   
(2)

36. (a) Complete the table of values for  $y = x^2 + 2x + 1$

$x$	-3	-2	-1	0	1	2	3
$y$							

(2)

(b) On the grid, draw the graph of  $y = x^2 + 2x + 1$  for the values of  $x$  from -3 to 3.



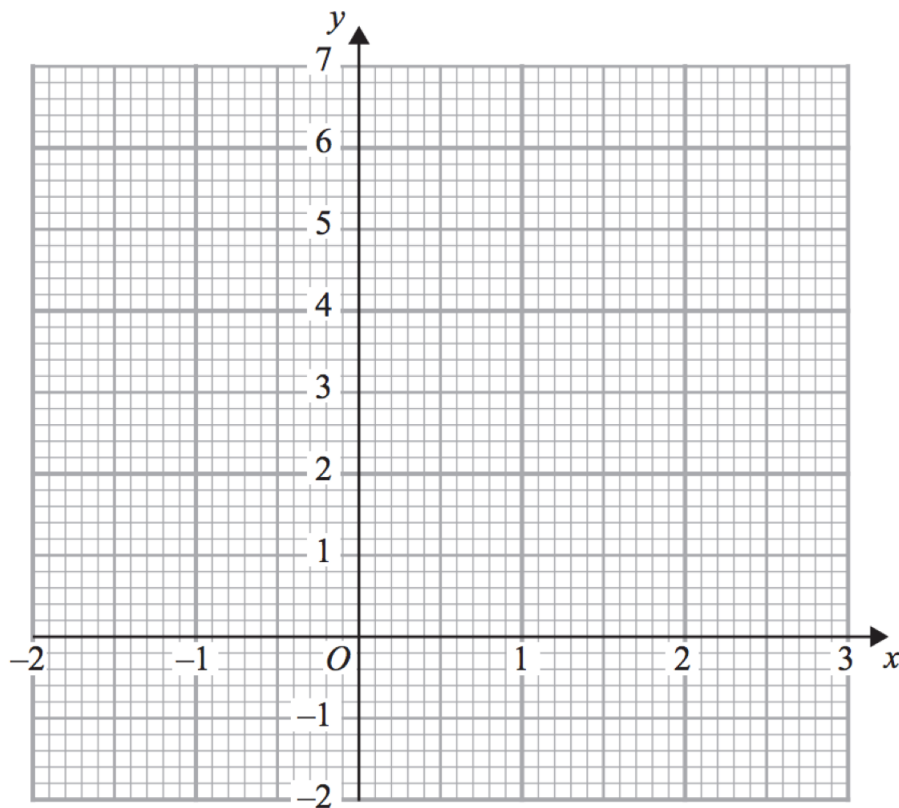
(2)

37. (a) Complete the table of values for  $y = x^3 - 2x + 3$

$x$	-2	-1	0	1	2
$y$					

(2)

(b) On the grid, draw the graph of  $y = x^3 - 2x + 3$  for the values of  $x$   $-2 \leq x \leq 2$



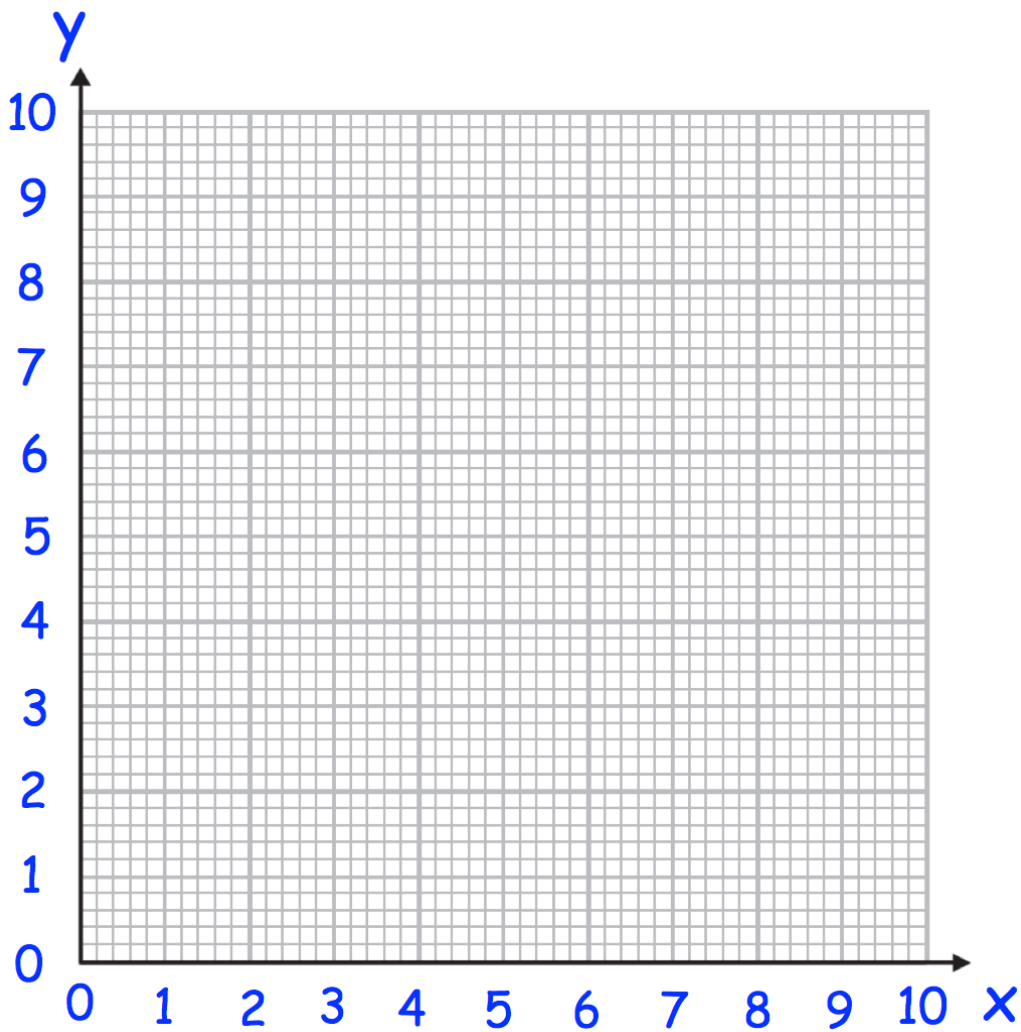
(2)

38. (a) Complete the table of value for  $y = \frac{4}{x}$

x	0.5	1	2	4	8	10
y						

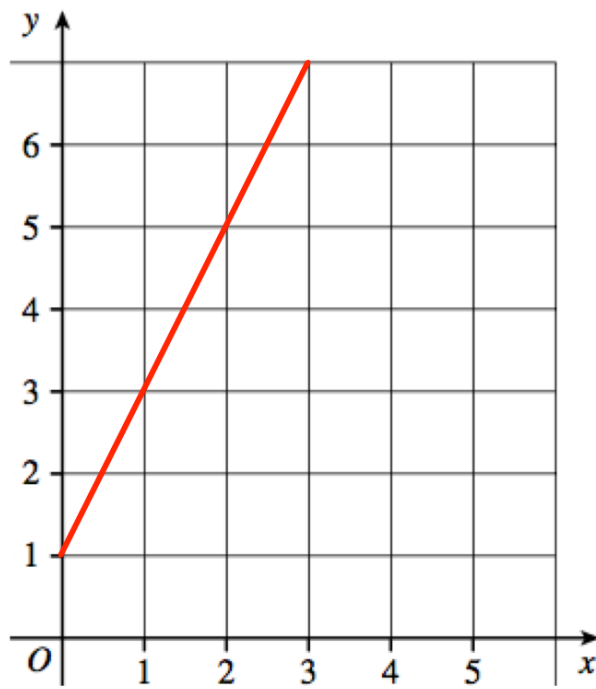
(2)

(b) On the grid, draw the graph of  $y = \frac{4}{x}$  for  $0.25 \leq x \leq 10$



(2)

39. A straight line L is shown on the grid.



Work out the equation of line L

.....  
(3)