

Name: **Solutions**

GCSE 9-1 Foundation  
Practice Paper  
Set B  
Paper 3 - Calculator



Corbettmaths

**Equipment**

1. A black ink ball-point pen.
2. A pencil.
3. An eraser.
4. A ruler.
5. A pair of compasses.
6. A protractor.
7. A calculator

**Guidance**

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

**Information**

1. Time: 1 hour 30 minutes
2. The maximum mark for this paper is 80.
3. You may use tracing paper.

Question	Mark	Available
1		1
2		1
3		1
4		2
5		2
6		2
7		3
8		4
9		3
10		1
11		3
12		3
13		4
14		3
15		3
16		2
17		5
18		3
19		4
20		3
21		3
22		6
23		6
24		3
25		4
26		5
<b>Total</b>		<b>80</b>

1. Write 0.4 as a percentage

40 ..... %  
(1)

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2. Find  $\sqrt{5.76}$

2.4 .....  
(1)

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3. Work out  $\frac{7}{20}$  of 860

$$860 \div 20 \times 7 =$$

301 .....  
(1)

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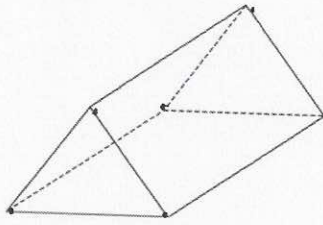
4. Write a number in each box to make calculation correct.

(a)  $702 \div \boxed{13} = 54$

(b)  $1 - \boxed{\frac{3}{4}} = \frac{1}{4}$

(2)

5. Here is a 3D shape



(a) Write down the name of this 3D shape.

triangular prism

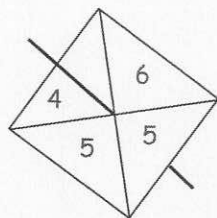
(1)

(b) How many vertices does the 3D shape have?

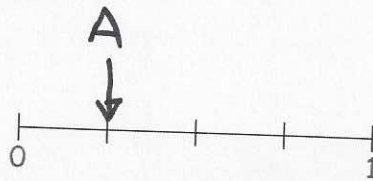
6

(1)

6. A fair 4-sided spinner is spun once.



(a) On the probability scale, mark with a letter A, the probability that the spinner will land on the number 4.



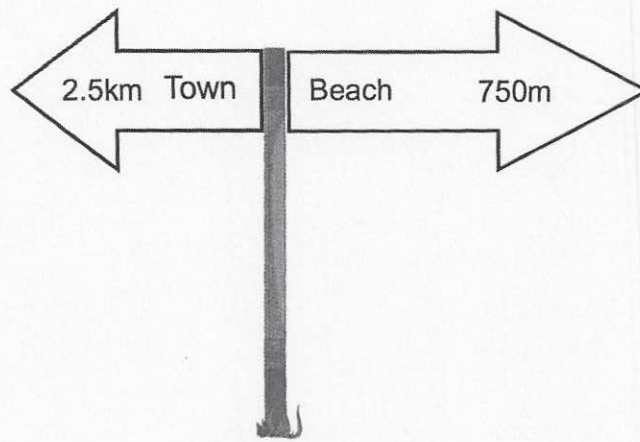
(1)

(b) Write down the probability that the spinner will land on a number less than 6

$\frac{3}{4}$

(1)

7.



Work out the distance between the town and the beach.  
State your units.

$$2.5 + 0.75 =$$

$$\begin{array}{r} 3.25 \text{ km} \\ \hline \text{(or } 3250 \text{ m)} \end{array} \quad (3)$$

8. 7 tables cost £318.50  
24 chairs cost £222

A school want to buy 270 tables and 576 chairs.

The headteacher says the total cost will be under £17500  
Is the headteacher correct?  
You must show your workings.

$$\begin{array}{l} 1 \text{ table costs } 318.50 \div 7 = \pounds 45.50 \\ 1 \text{ chair costs } 222 \div 24 = \pounds 9.25 \end{array}$$

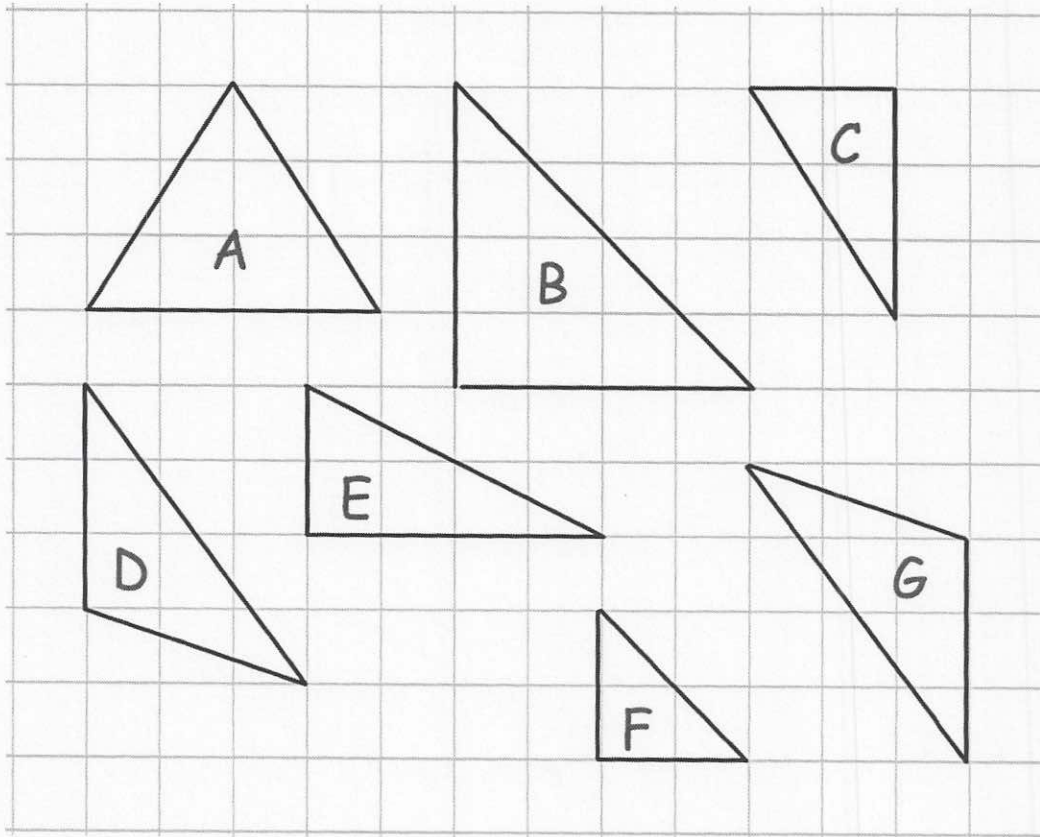
$$270 \times 45.50 + 576 \times 9.25 = \pounds 17,613$$

No, she is wrong

.....  
(4)



9. Shown below are some triangle on a centimetre grid.



(a) Write down the letters of the two triangles which are congruent.

..... D ..... and ..... G .....  
(1)

Triangle B is an enlargement of triangle F.

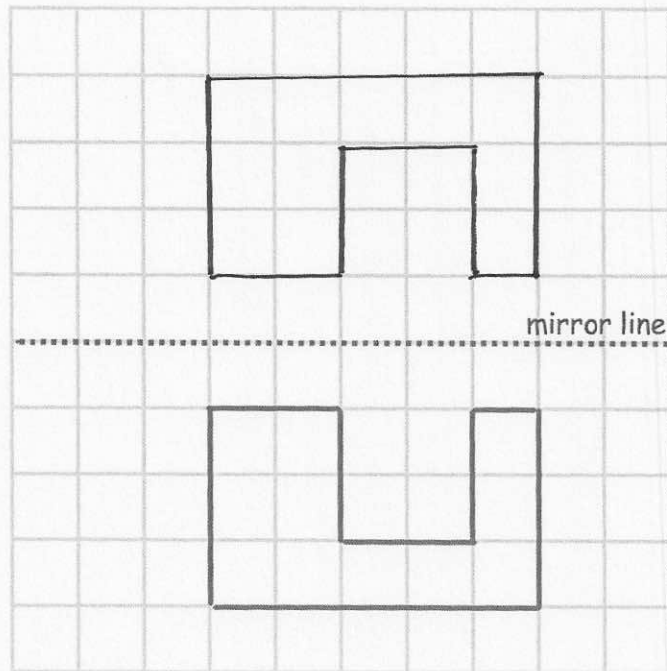
(b) Write down the scale factor of this enlargement.

..... 2 .....  
(1)

(c) What kind of triangle is triangle A?

..... isosceles .....  
(1)

10.



On the grid, reflect the shaded shape in the mirror line.

(1)

11. 30% of the members of a tennis club are pensioners.  
36 members are pensioners.

Work out how many members of the tennis club are not pensioners.

$$\begin{array}{l} 30\% \rightarrow 36 \\ 10\% \rightarrow 12 \\ 100\% \rightarrow 120 \end{array} \left. \begin{array}{l} \\ \\ \end{array} \right\} \begin{array}{l} \div 3 \\ \\ \times 10 \end{array}$$

$$120 - 36 =$$

84

(3)

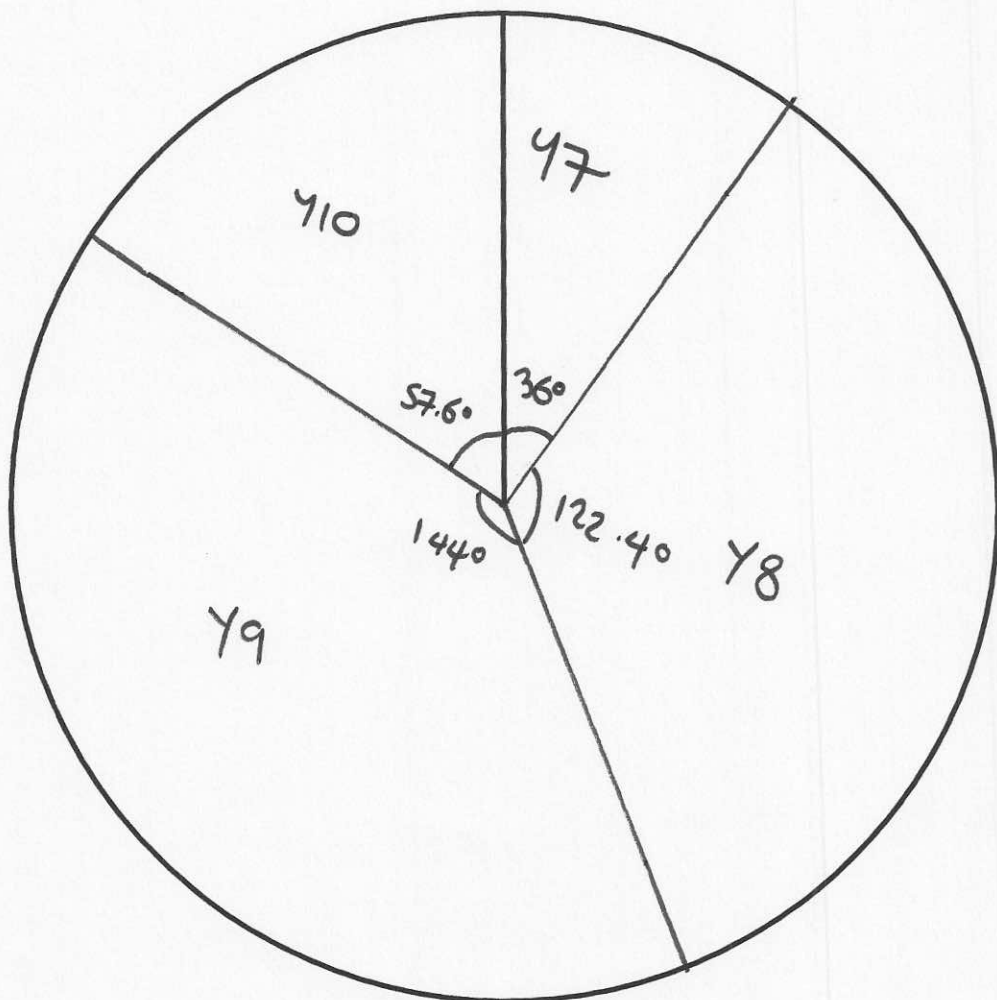
12. The table shows information on the number prizes given out in prize day.

Year Group	Frequency
7	5
8	17
9	20
10	8

$$\begin{aligned} 5 \times 7.2 &= 36 \\ 17 \times 7.2 &= 122.4 \\ 20 \times 7.2 &= 144 \\ 8 \times 7.2 &= 57.6 \end{aligned}$$

$$360 \div 50 = 7.2$$

Draw a pie chart for this information



(3)

13. Martina sat two maths tests.

Paper 1 has 60 marks.

Paper 2 has 150 marks

Martina scored 65% in Paper 1 and 36% in Paper 2.

Her teacher has said to pass she will need to score 45% of the total marks.

Did Martina pass?

You need to show your working.

$$65\% \text{ of } 60 = 39 \text{ marks}$$

$$36\% \text{ of } 150 = 54 \text{ marks}$$

$$\text{total} = 93 \text{ marks}$$

$$45\% \text{ of } 210 = 94.5 \text{ marks}$$

No, she didn't pass.

.....  
(4)



14. A spinner lands of white, black, red or orange.  
The relative frequencies after 300 spins are shown in the table below.

Colour	White	Black	Red	Orange
Relative Frequency	0.25	0.4	0.2	0.15

Work out how many more times the spinner landed on black than orange.

$$0.4 \times 300 = 120 \text{ Black}$$
$$0.15 \times 300 = 45 \text{ orange}$$

$$120 - 45 =$$

75

.....  
(3)

- 
15. Trains leave Bristol

to Cardiff every 15 minutes  
to London every 21 minutes

A train to Cardiff and a train to London both leave Bristol at 11am.

At what time will a train to Cardiff and a train to London next leave Bristol at the same time?

15, 30, 45, 60, 75, 90, 105, ..

21, 42, 63, 84, 105

after 105 minutes = 1h 45

12:45 pm

.....  
(3)

16. The number of people who voted for the Green Party in an election was 1500. The number of people who voted for the Blue Party was 9000.

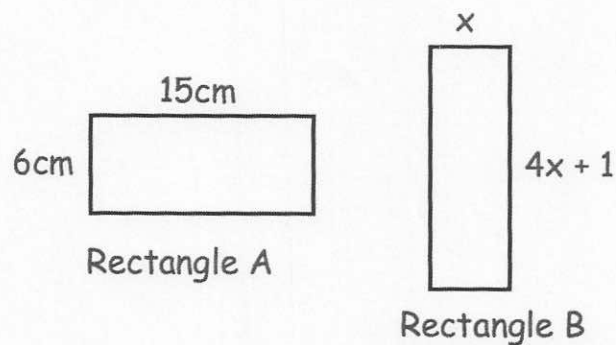
Write the ratio of Green Party voters to Blue Party voters in its simplest form.

$$\begin{aligned} & 1500 : 9000 \\ & = 15 : 90 \quad \left. \vphantom{1500 : 9000} \right\} \div 100 \\ & = 1 : 6 \end{aligned}$$

1:6

(2)

17.



Both rectangles have the same perimeter.

Find the area of rectangle B.

$$\text{Perimeter} = 15 + 6 + 15 + 6 = 42 \text{ cm}$$

$$x + 4x + 1 + x + 4x + 1 = 10x + 2 = 42$$

$$\therefore x = 4$$

$$\text{area} = 4 \times (4 \times 4 + 1) = 68$$

68

cm<sup>2</sup>

(5)

18. Michael is going to buy a car.  
 The car costs £24000.  
 He pays a deposit of 15%.  
 Michael pays the rest of the money over 20 monthly payments.  
 Work out the cost of each monthly payment.

$$15\% \text{ of } 24000 = \text{£}3600 \text{ deposit}$$

$$24000 - 3600 = \text{£}20,400 \text{ to pay}$$

$$20,400 \div 20 = \text{£}1020$$

$$\text{£}1020 \dots\dots\dots$$

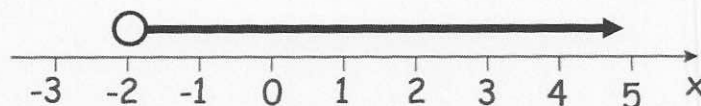
(3)

19. (a) Solve the inequality  $2x - 1 < 9$

$$2x < 10$$

$$x < 5 \dots\dots\dots$$

(2)



- (b) Write down the inequality shown on the number above

$$x > -2 \dots\dots\dots$$

(1)

- (c) Write down **all** the integers that satisfy both inequalities shown in part (a) and (b).

$$-1, 0, 1, 2, 3, 4 \dots\dots\dots$$

(1)



20. (a) Write 17652 correct to 2 significant figures.

18000  
(1)

(b) Work out  $\frac{\sqrt{8^2 + 5^4}}{2.7^3}$

Write down all the figures on your calculator display.

1.333577681  
(2)

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21. Orla weighed 3.77kg when she was born.  
On Orla's second birthday she weighed 12.8kg.

Calculate the percentage increase in her weight.

$$\frac{12.8 - 3.77}{3.77} \times 100 = 239.52 \dots$$

239.5 %  
(3)

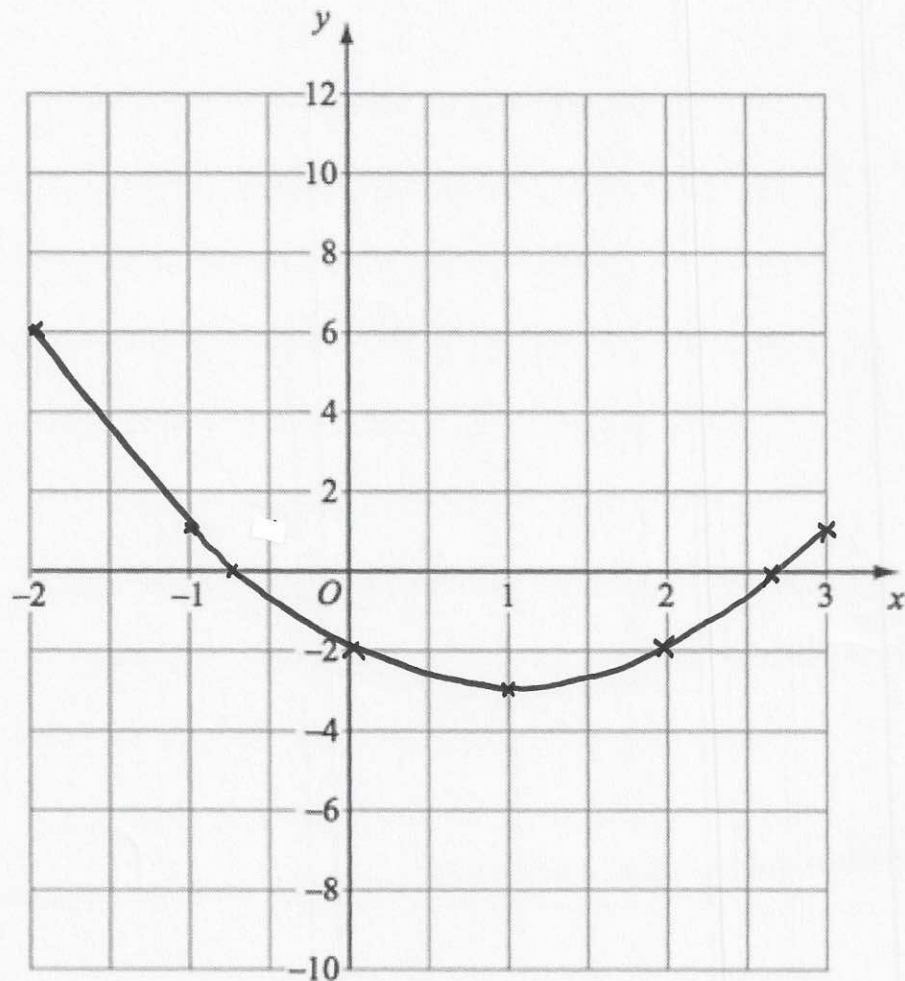


22. (a) Complete this table of value for  $y = x^2 - 2x - 2$

x	-2	-1	0	1	2	3
y	6	1	-2	-3	-2	1

(2)

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



(2)

(c) Use the graph to estimate the solutions to  $x^2 - 2x - 2 = 0$

$x \approx 2.7$     $x \approx -0.7$

(2)

23. The table shows the lengths of 80 snakes in a zoo.

Length (cm)	Frequency
$0 \leq L < 30$	8
$30 \leq L < 60$	43
$60 \leq L < 90$	25
$90 \leq L < 120$	4

$MP \cdot x \cdot f$   
 $15 \times 8 = 120$   
 $45 \times 43 = 1935$   
 $75 \times 25 = 1875$   
 $105 \times 4 = 420$   


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 $4350$

80

(a) What percentage of snakes are shorter 60cm in length?

$$43 + 8 = 51$$

$$\frac{51}{80} \times 100 =$$

$$\frac{63.75}{\dots\dots\dots} \%$$

(2)

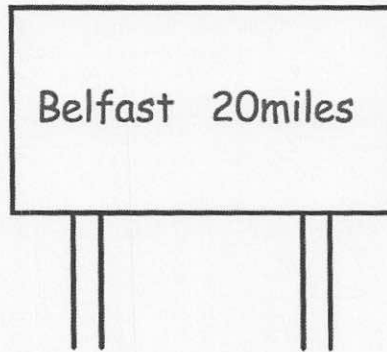
(b) Calculate an estimate of the mean length of a snake in the zoo.

$$\frac{4350}{80} = 54.375$$

$$\frac{54 \text{ cm}}{\dots\dots\dots}$$

(4)

24.



A village is 20 miles from Belfast.

Conor drives from the village to Belfast at 40mph

Kelly drives from the village to Belfast at 50mph

Work out how much longer the journey takes Conor.

Give your answer in minutes.

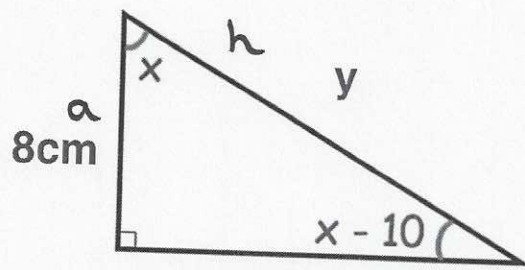
$$\text{Conor: time} = \frac{\text{distance}}{\text{Speed}} = \frac{20}{40} = \frac{1}{2} \text{ hour} = 30 \text{ mins}$$

$$\text{Kelly: time} = \frac{\text{distance}}{\text{Speed}} = \frac{20}{50} = 0.4 \text{ h} = 24 \text{ mins}$$

$$30 - 24 = \dots\dots\dots 6 \dots\dots\dots \text{minutes}$$

(3)

25. Here is a right angled triangle.



Work out the length of the side labelled y.

$$x + x - 10 = 90$$

$$\therefore x = 50$$

$$\cos \theta = \frac{a}{h} \quad h = \frac{a}{\cos \theta} = \frac{8}{\cos 50}$$

$$= 12.4457 \dots$$

$$\dots 12.4 \dots \text{cm}$$

(4)



26. The equations of five lines are given below.

Line A  $y = 2x + 3$

Line B  $y = \frac{1}{2}x - 3$

Line C  $y = 6 - x$

Line D  $y - 2x = 7$

Line E  $y + 2x = 3$

(a) Which line goes through the point (1, 9)?

D  
.....  
(1)

(b) Which two lines cross the y-axis at the same point?

A ..... and E .....  
(2)

(c) Which two lines are parallel?

A ..... and D .....  
(2)