

Write your name here

Surname

Other Names

Mathematics

**June 2018 Paper 3 (Calculator Allowed)
Part 2 (Second half of the paper)
Edexcel Foundation Tier**

Time: 45 minutes

Q	Topic	Max Mark	My Marks
16	Reverse Fraction of Amount, Writing Ratio	5	
17	Forming and Solving Equations	3	
18	Standard Form	2	
19	Scatter Graphs	3	
20	Expanding and Simplifying	2	
21	Area of a Trapezium, Triangle	2	
22	Probability Trees	2	
23	Trigonometry SOHCAHTOA	3	
24	Probability and Relative Frequency	5	
25	Solving Equations	3	
26	Angles in Polygons, Solving Equations	5	
27	Similar Shapes	4	
28	Changing the Subject of a Formula	3	
	Total	42	

For worked solutions and video solutions visit mathsgenie.co.uk

16 Alan, Bispah and Chan share a sum of money.

Alan gets $\frac{1}{8}$ of the money.

Bispah gets $\frac{1}{2}$ of the money.

Chan gets the rest of the money.

Alan gets £2.50

(a) Work out how much money Bispah gets.

£.....
(2)

(b) Find the ratio

amount of money Alan gets : amount of money Chan gets

Give your answer in the form $a:b$ where a and b are whole numbers.

.....
(3)

(Total for Question 16 is 5 marks)

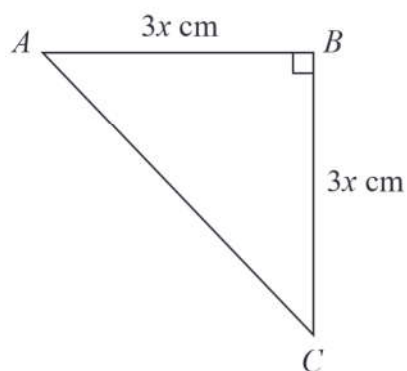


DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

17 ABC is an isosceles right-angled triangle.



The area of the triangle is 162 cm^2

Work out the value of x .

$x = \dots\dots\dots$

(Total for Question 17 is 3 marks)

18 Work out the value of $\frac{2.645 \times 10^9}{1.15 \times 10^3}$

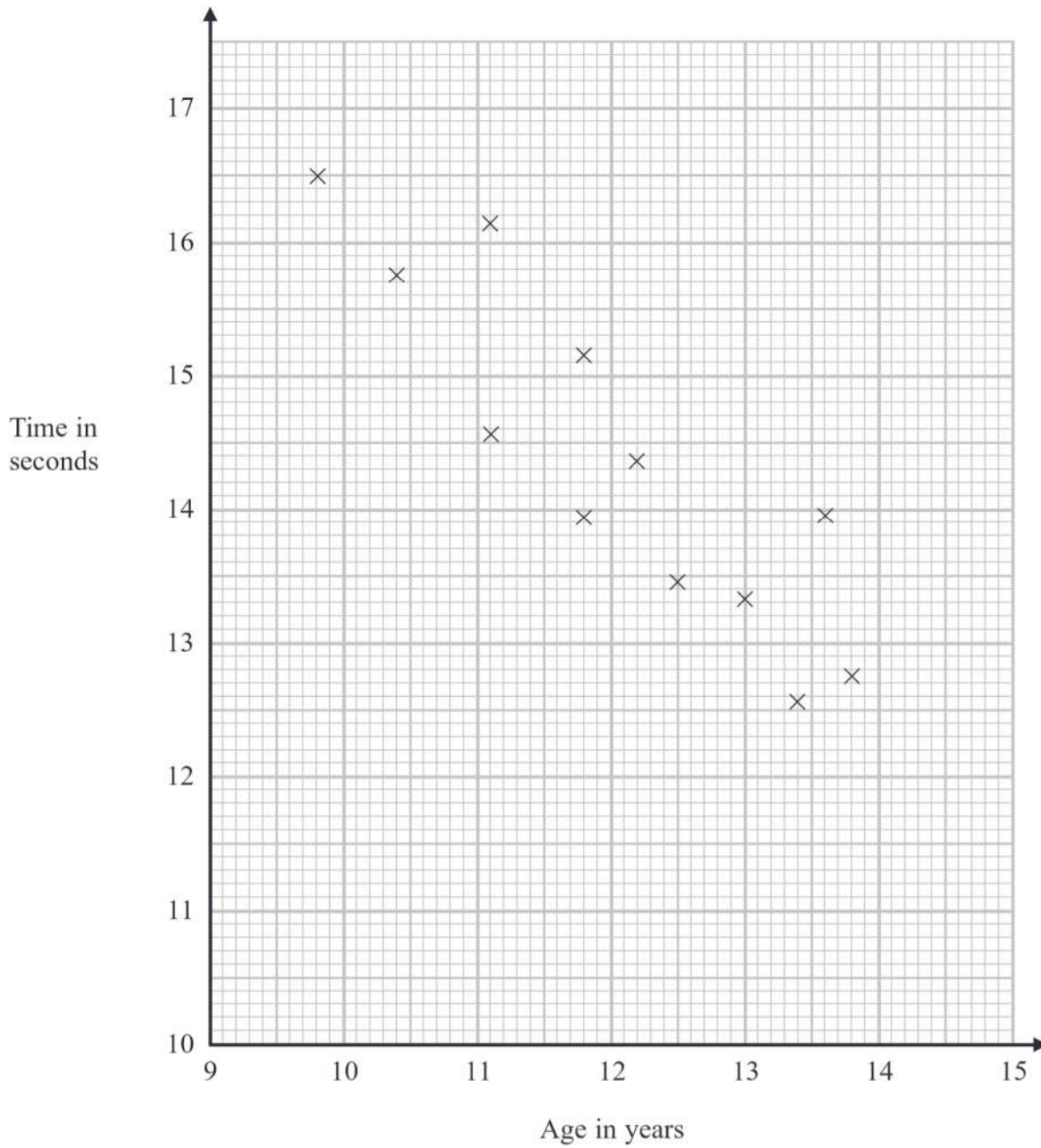
Give your answer in standard form.

(Total for Question 18 is 2 marks)



19 The scatter diagram shows information about 12 girls.

It shows the age of each girl and the best time she takes to run 100 metres.



(a) Write down the type of correlation.

(1)



DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

Kristina is 11 years old.
Her best time to run 100 metres is 12 seconds.

The point representing this information would be an outlier on the scatter diagram.

(b) Explain why.

(1)

Debbie is 15 years old.

Debbie says,

“The scatter diagram shows I should take less than 12 seconds to run 100 metres.”

(c) Comment on what Debbie says.

(1)

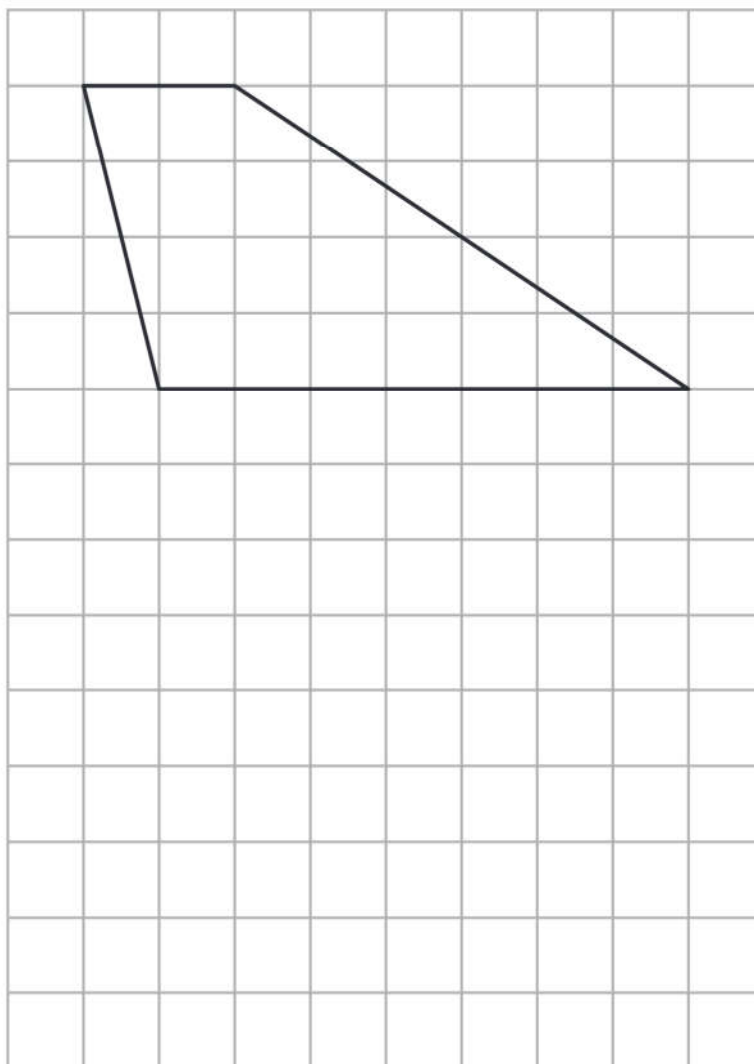
(Total for Question 19 is 3 marks)

20 Expand and simplify $5(p + 3) - 2(1 - 2p)$

(Total for Question 20 is 2 marks)



21 Here is a trapezium drawn on a centimetre grid.



On the grid, draw a triangle equal in area to this trapezium.

(Total for Question 21 is 2 marks)

DO NOT WRITE IN THIS AREA

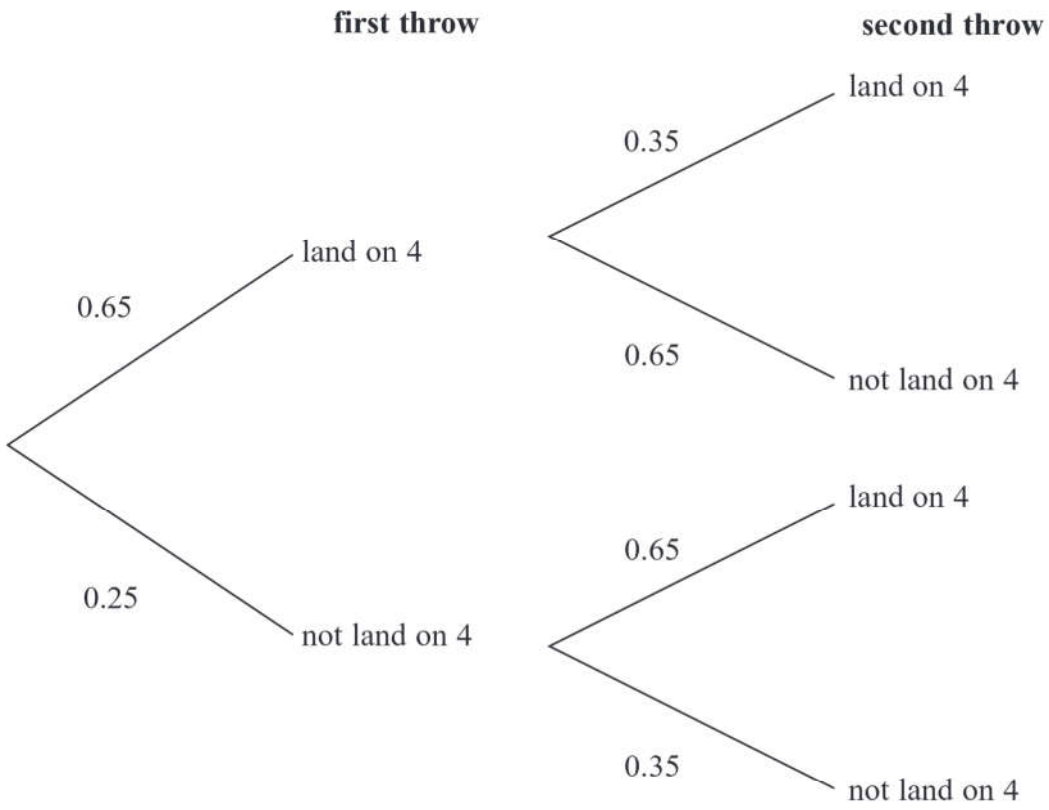
DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



22 When a biased 6-sided dice is thrown once, the probability that it will land on 4 is 0.65
 The biased dice is thrown twice.

Amir draws this probability tree diagram.
 The diagram is **not** correct.



Write down **two** things that are wrong with the probability tree diagram.

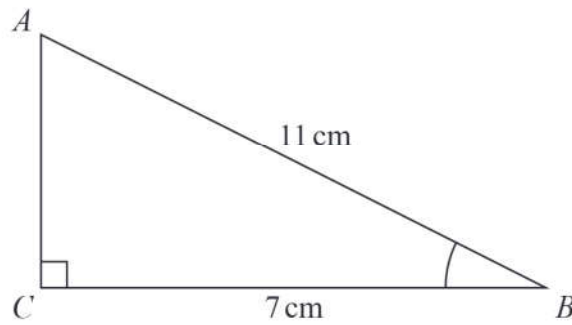
1.....

2.....

(Total for Question 22 is 2 marks)



23 ABC is a right-angled triangle.



- (a) Work out the size of angle ABC .
Give your answer correct to 1 decimal place.

.....
(2)

The length of the side AB is reduced by 1 cm .

The length of the side BC is still 7 cm .
Angle ACB is still 90°

- (b) Will the value of $\cos ABC$ increase or decrease?
You must give a reason for your answer.

.....
(1)

(Total for Question 23 is 3 marks)



24 There are some counters in a bag.
The counters are red or white or blue or yellow.

Bob is going to take at random a counter from the bag.

The table shows each of the probabilities that the counter will be blue or will be yellow.

Colour	red	white	blue	yellow
Probability			0.45	0.25

There are 18 blue counters in the bag.

The probability that the counter Bob takes will be red is twice the probability that the counter will be white.

(a) Work out the number of red counters in the bag.

.....
(4)

A marble is going to be taken at random from a box of marbles.
The probability that the marble will be silver is 0.5

There must be an even number of marbles in the box.

(b) Explain why.

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

(Total for Question 24 is 5 marks)



25 Solve $\frac{5-x}{2} = 2x-7$

$x = \dots\dots\dots$

(Total for Question 25 is 3 marks)

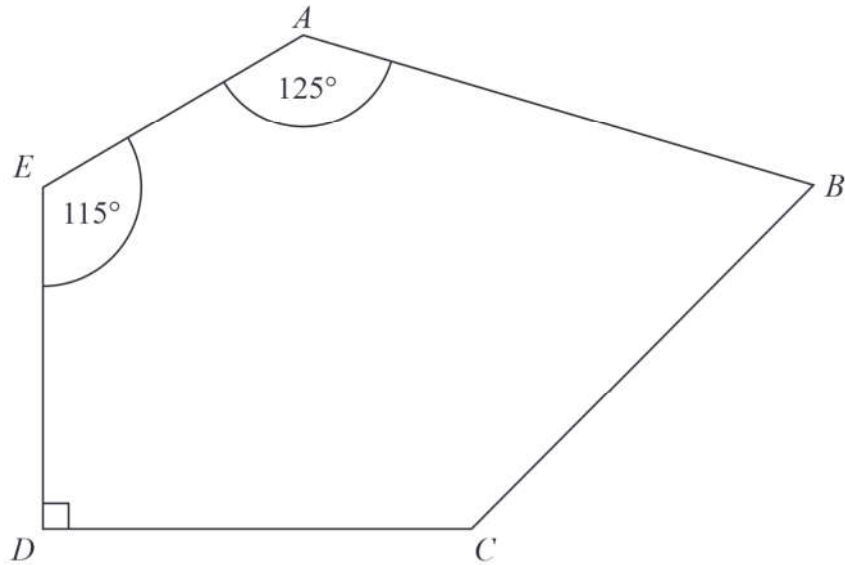
DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



26 $ABCDE$ is a pentagon.



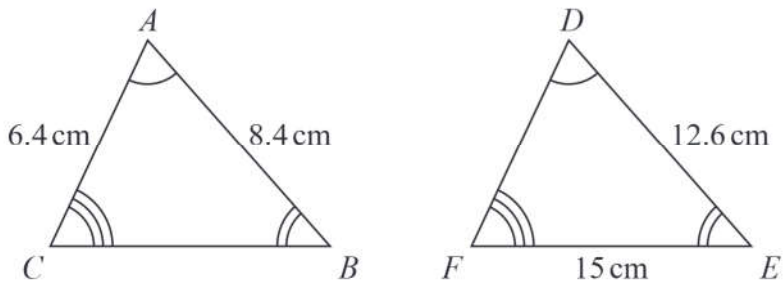
Angle $BCD = 2 \times$ angle ABC

Work out the size of angle BCD .
You must show all your working.

(Total for Question 26 is 5 marks)



27 Triangle ABC and triangle DEF are similar.



(a) Work out the length of DF .

..... cm
(2)

(b) Work out the length of CB .

..... cm
(2)

(Total for Question 27 is 4 marks)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

28 Make g the subject of the formula

$$T = \sqrt{\frac{g + 6}{2}}$$

.....
(Total for Question 28 is 3 marks)

TOTAL FOR PAPER IS 80 MARKS

