

**FOUNDATION TIER  
MINI PRACTICE EXAM 10**



**CALCULATOR ALLOWED  
20 MINUTES ALLOWED**

1.

24 people took a fitness test.

The scatter graph to the right shows the ages and scores (out of 100) of the participants.

(a) Russell is 44 and scored 48 in the test. Add Russell's score to the graph.

(1)

(b) Describe the correlation of the graph.

negative

(1)

(c) Use the graph to estimate the score for a 36-year-old.

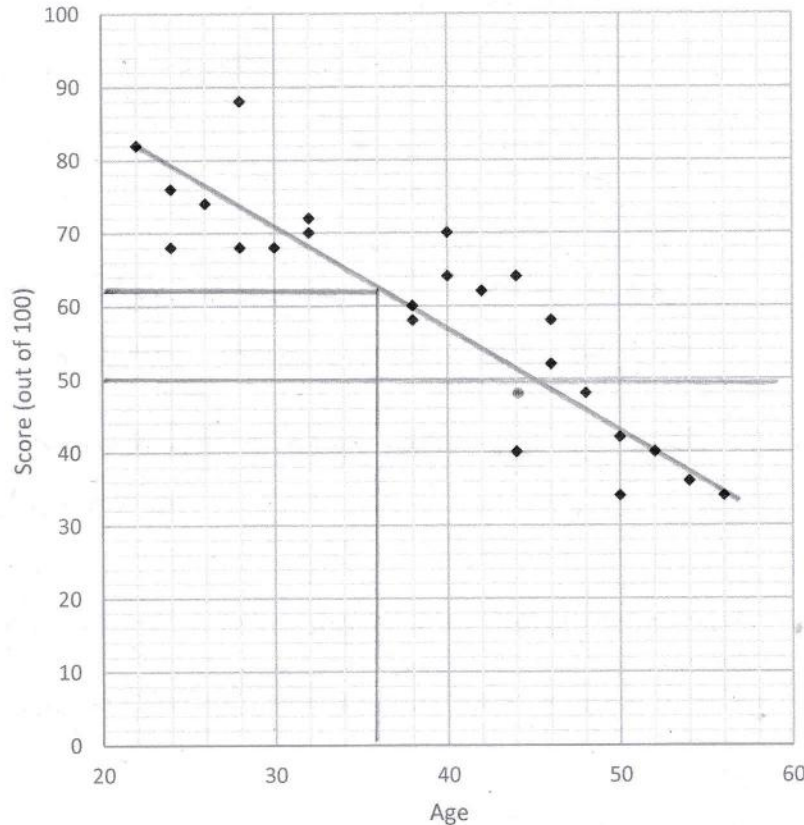
62

(1)

(d) What percentage of the participants (including Russell) scored less than 50?

$$\frac{8}{25} \times 100 = 32\%$$

(2)



2.

A coat normally costs £120.

In a sale, the coat reduces in price to £90.

Find the percentage decrease of the coat in the sale.

$$\frac{120 - 90}{120} \times 100 = 25\%$$

(2)

3.

(a) Solve  $9x - 20 = 3x + 7$

$$\begin{aligned} & -3x && -3x \\ & 6x - 20 = 7 && \\ +20 & && +20 \\ & 6x = 27 && \\ \div 6 & && \div 6 \\ & x = 4.5 && \end{aligned}$$

(2)

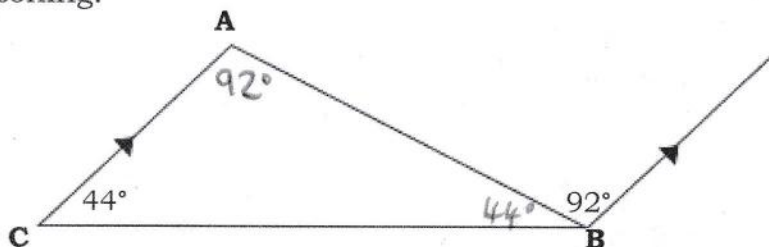
(b) Solve  $\frac{2x+1}{3} = 12$

$$\begin{array}{r} \times 3 \qquad \times 3 \\ - \quad 2x+1=36 \quad - \\ \hline \quad 2x=35 \quad \div 2 \\ \div 2 \qquad \qquad \div 2 \end{array}$$

$$\underline{x = 17.5}$$

(3)

4. Show that ABC is an isosceles triangle. Explain your reasoning.



$$\begin{array}{r} 180 - 92 - 44 \\ = 44 \end{array}$$

$\angle CAB = 92^\circ$  because alternate angles are equal.  
 $\angle ABC = 44^\circ$  because angles in a triangle add to  $180^\circ$

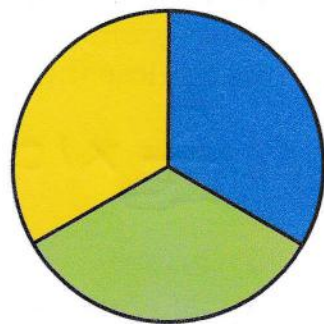
ABC is an isosceles triangle because it has two equal angles.

(3)

5. Sophia has a fair spinner (pictured to the right) and a fair six-sided dice. She is going to spin the spinner and roll the dice to give her a final score.

If the spinner lands on yellow, she doubles the score on the dice.  
 If the spinner lands on green, she adds 4 to the score on the dice.  
 If the spinner lands on blue, the score on the dice does not change.

Work out the probability that Sophia scores a number greater than 5.



	Dice					
	1	2	3	4	5	6
Spinner Y	2	4	6	8	10	12
G	5	6	7	8	9	10
B	1	2	3	4	5	6

$$\frac{10}{18} = \frac{5}{9}$$

(5)