Oxford Cambridge and RSA

GCSE Mathematics - Paper 3 (Foundation tier)

J560/03 Paper 3 Mathematics (Foundation Tier)

Question Set 4

1 Work out.

$1.52\,\text{kg} + 80\,\text{g}$

Give your answer in kilograms.

..... kg **[2]**

2 **(a)** Round 32 629 to the nearest thousand.

(a) ..... **[1]**

(b) Round 32 629 to 1 significant figure.

(b) ..... **[1]**

3 A circle has radius 5 cm.

(a) Work out the circumference of the circle.

(a) ..... cm **[2]**

(b) Work out the area of the circle.

(b) ..... cm^2 **[2]**

4 Dan thinks of a number.
He adds 3 and divides the result by 2.
His answer is 16.

What number is Dan thinking of?

..... **[2]**

5 Jenny has a five-sided **biased** spinner.
The sectors are coloured red, blue, green, yellow and white.
She spins the spinner 100 times.

The table shows the number of times the spinner lands on each colour.

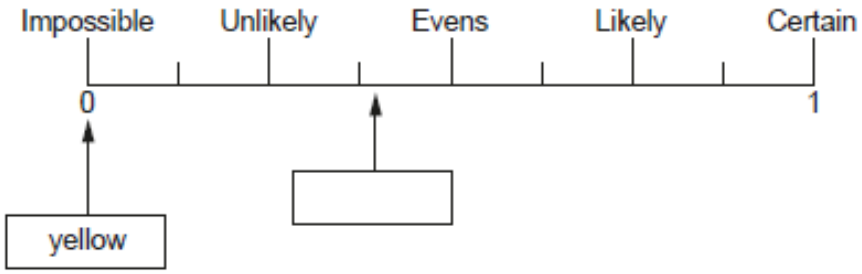
Colour	Frequency
Red	28
Blue	38
Green	6
Yellow	0
White	28
Total	100

Jenny uses her data to estimate the probability of the spinner landing on each colour.

(a) Write down Jenny's estimate for the probability of landing on red.

(a) ..... **[1]**

(b) Jenny then writes in some of the colours on this probability scale.



(i) Write the correct colour in the box. **[1]**

(ii) Explain why Jenny's estimate for the probability of landing on yellow cannot be the actual probability.

.....

.....

..... **[1]**

6 Nada is planning the colour scheme for her bedroom.

The colour of her carpet can be blue (B), grey (G) or red (R).
The walls can be painted yellow (Y), white (W) or pink (P).

(a) Complete the table to show all of the possible colour combinations she can make.
You may not need all the rows.

Carpet	Walls
B	Y

[2]

(b) Explain why it would **not** be mathematically correct to find the probability that Nada decides on a grey carpet and pink walls using this formula.

$$\frac{1}{\text{the total number of colour combinations}}$$

.....

..... **[1]**

7 **(a)** Find the value of

(i) $\sqrt[3]{216}$,

(a)(i) ..... **[1]**

(ii) 2^8.

(ii) ..... **[1]**

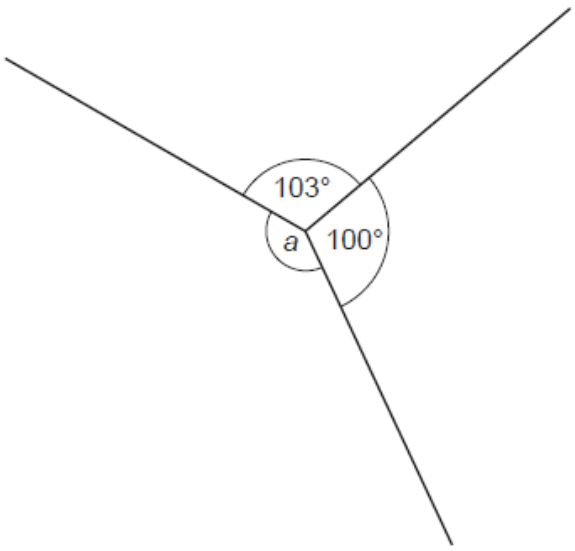
(b) The cube of 3 is added to the square root of 7.

Put a ring around the correct statement.

$\sqrt[3]{3}+7^2$ $\quad$ 3^3+7^2 $\quad$ $3^3+\sqrt{7}$ $\quad$ $\sqrt[3]{3}+\sqrt{7}$

[1]

8 **(a)** Three lines meet at a point.

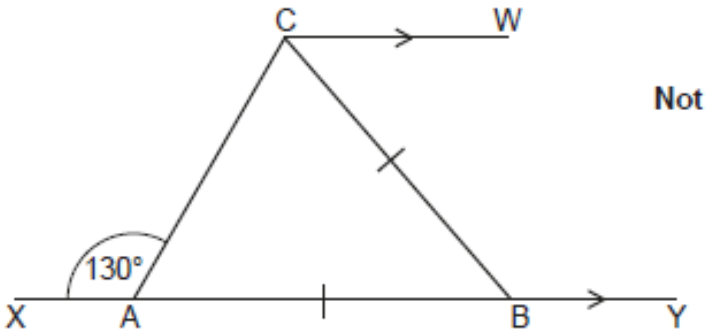


Not to scale

Work out the size of angle *a*.

(a) $a =$ ..... ° **[2]**

XY and CW are parallel lines.
AB = CB.
Angle CAX = 130°.



Not to scale

(i) Complete this sentence.

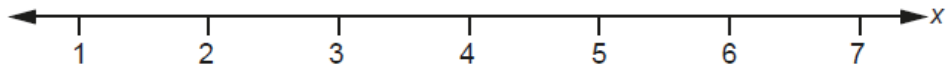
Angle CAB = 50° because .....

..... **[1]**

(ii) Work out angle BCW.
Give a reason for each angle you work out.

(b)(ii) .....° **[4]**

9 Solve $3x - 5 \geqslant 10$.
Show your solution on the number line.



[4]

10 Amrit's income is 32% more than Bethan's income.
Amrit and Bethan's combined income is £54 868.

Calculate Amrit's income.

£ ..... **[5]**

11 Jacob, Amelie and Reuben each roll a fair six-sided dice.
What is the probability that all three roll a number less than 3?

Give your answer as a fraction in its simplest form.

..... **[3]**

12 Kay invests £1500 in an account paying 3% **compound** interest per year.
Neil invests £1500 in an account paying r% **simple** interest per year.

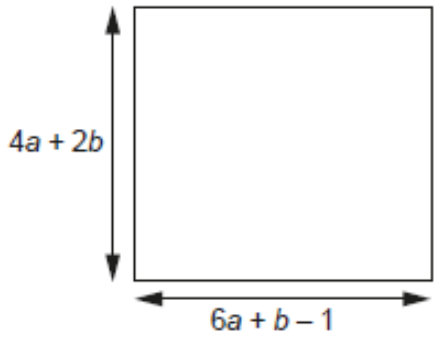
At the end of the 5th year, Kay and Neil's accounts both contain the same amount of money.

Calculate r.
Give your answer correct to 1 decimal place.

$r =$ ..... **[6]**

13 In this question, all lengths are in centimetres.

Here is a square.



Not to scale

Find the length of one side of the square when $b = 4$.

..... cm **[6]**

Total Marks for Question Set 4: 50