

Name: _____

GCSE (1 – 9)

Percentages

Instructions

- Use **black** ink or ball-point pen.
- Answer all questions.
- Answer the questions in the spaces provided
– *there may be more space than you need.*
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- You must **show all your working out.**

Information

- The marks for each question are shown in brackets
– *use this as a guide as to how much time to spend on each question.*

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end

1 Work out 10% of £95

$$\frac{95}{10}$$

£ 9.50

(Total for question 1 is 1 mark)

2 Work out 50% of 1200 grams

$$\frac{1200}{2}$$

600 grams

(Total for question 2 is 1 mark)

3 Work out 1% of 200 litres

$$\frac{200}{100}$$

2 litres

(Total for question 3 is 1 mark)

4 Find 21% of £160

$$\frac{160}{10} = 16 \quad 16 \times 2 = 32 \quad (20\%)$$

$$\frac{160}{100} = 1.6 \quad (1\%)$$

$$32 + 1.6$$

£ 33.60

(Total for question 4 is 2 marks)

5 Find 45% of 820

$$\frac{820}{2} = 410 \quad (50\%)$$

$$\frac{410}{10} = 41 \quad (5\%)$$

$$\begin{array}{r} 410 \\ - 41 \\ \hline \end{array}$$

369

(Total for question 5 is 2 marks)

6 Find 36% of 2500

$$\frac{2500}{10} = 250$$

$$250 \times 3 = 750 \quad (30\%)$$

$$\frac{250}{2} = 125 \quad (5\%)$$

$$\frac{2500}{100} = 25 \quad (1\%)$$

900

$$750 + 125 + 25$$

(Total for question 6 is 2 marks)

7 Work out 252% of 120.

$$100\% = 120$$

$$120 \times 2 = 240 \text{ (200\%)}$$

$$\frac{120}{2} = 60 \text{ (50\%)}$$

$$\frac{120}{100} = 1.2 \text{ (1\%)}$$

$$1.2 \times 2 = 2.4 \text{ (2\%)}$$

$$\begin{array}{r} 240 \\ 60 \\ + 2.4 \\ \hline \end{array}$$

$$\dots\dots\dots 302.4$$

(Total for question 7 is 2 marks)

8 Which is greater

25% of 90 or 28% of 82

You must show your working.

$$\frac{90}{2} = 45 \text{ (50\%)}$$

$$\frac{45}{2} = \underline{\underline{22.5}} \text{ (25\%)}$$

$$\frac{82}{10} = 8.2$$

$$8.2 \times 3 = 24.6 \text{ (30\%)}$$

$$\frac{82}{100} = 0.82$$

$$0.82 \times 2 = 1.64 \text{ (2\%)}$$

$$24.6 - 1.64 = \underline{\underline{22.96}}$$

$$\dots\dots\dots 28\% \text{ of } 82$$

(Total for question 8 is 3 marks)

9 Which is greater

30% of 105 or 32% of 98

You must show your working.

$$\frac{105}{10} = 10.5$$

$$10.5 \times 3 = \underline{\underline{31.5}}$$

$$\frac{98}{10} = 9.8$$

$$9.8 \times 3 = 29.4 \text{ (30\%)}$$

$$\frac{98}{100} = 0.98$$

$$0.98 \times 2 = 1.96 \text{ (2\%)}$$

$$29.4 + 1.96 = \underline{\underline{31.36}}$$

$$\dots\dots\dots 32\% \text{ of } 98$$

(Total for question 9 is 3 marks)

- 10 Richard gets a bonus of 30% of £130
Connor gets a bonus of £40

Work out the difference between the bonus Richard gets and the bonus Connor gets

$$\frac{130}{10} = 13$$

$$13 \times 3 = \underline{\underline{39}}$$

$$40 - 39 = 1$$

£..... /

(Total for question 10 is 3 mark)

- 11 There are adults and children in a cinema.
There are 48 adults.
25% of the people at the cinema are children.

Work out the total number of people at the cinema.

$$48 = 75\%$$

$$\div 3 \quad \div 3$$

$$16 = 25\%$$

$$\times 4 \quad \times 4$$

$$64 = 100\%$$

.....
64

(Total for question 11 is 3 marks)

- 12 David is paid £34000 per year.
He is going to get a 3% increase in the amount of money he is paid.

Work out how much money David will be paid per year after the increase

$$\frac{34000}{100} = 340 \quad (1\%)$$

$$340 \times 3 = 1020$$

$$\begin{array}{r} 34000 \\ + 1020 \\ \hline 35020 \end{array}$$

£.....35020

(Total for question 12 is 2 marks)

- 13 Abbie buys a sofa for £540
She pays a deposit of 15% and the rest of the money in monthly payments of £17.

How many monthly payments will Abbie need to pay?

$$\frac{540}{10} = 54 \quad (10\%)$$

$$\frac{54}{2} = 27 \quad (5\%)$$

$$54 + 27 = 81 \quad (15\%)$$

$$\begin{array}{r} 540 \\ - 81 \\ \hline 459 \end{array} \quad \begin{array}{l} \text{left to} \\ \text{pay} \end{array}$$

$$\begin{array}{r} 27 \\ 17 \overline{)459} \end{array}$$

.....27

(Total for question 13 is 3 marks)

- 14 Dermot bakes 420 cakes.
He bakes only vanilla cakes, banana cakes and lemon cakes.
120 of the cakes are vanilla cakes.
35% of the cakes are banana cakes.

Work out the number of lemon cakes Dermot bakes.

$$\frac{420}{10} = 42 \quad (10\%)$$

$$\frac{42}{2} = 21 \quad (5\%)$$

$$42 \times 3 = 126 \quad (30\%)$$

$$126 + 21 = 147$$

$$\begin{array}{r} 420 \\ -120 \\ \hline 300 \end{array}$$

$$\begin{array}{r} 300 \\ -147 \\ \hline 153 \end{array}$$

153

(Total for question 14 is 3 marks)

- 15 Amelia and Sophie did a test.
The total for the test was 75 marks.

Amelia got 56% of the 75 marks.
Sophie got 43 out of 75

Who got the highest mark?
You must show all your working.

$$\frac{75}{2} = 37.5 \quad (50\%)$$

$$\frac{37.5}{10} = 3.75 \quad (5\%)$$

$$\frac{75}{100} = 0.75 = (1\%)$$

$$\begin{array}{r} 37.5 \\ + 3.75 \\ + 0.75 \\ \hline 42.00 \end{array}$$

$$\frac{42}{75} \text{ Amelia}$$

Sophie

(Total for question 15 is 2 marks)

- 16 Zoe wants to buy 6 tins of beans for the cheapest possible price.

Shop A and Shop B both have a special offer.

Shop A

5% off the normal price of 48p
(each)

Shop B

65p each
Buy 2 get 1 free

Which shop should Zoe buy the beans from?
You must show how you get your answer.

$$6 \times 0.48$$

$$\begin{array}{r} 48 \\ \times 6 \\ \hline 288 \end{array}$$

$$£2.88$$

$$10\% = 28.8p$$

$$5\% = 24.4p$$

$$2.88 - 0.24 = \underline{\underline{£2.64}}$$

Shop B
pay for 4 get 2 free

$$0.65 \times 4 = \underline{\underline{£2.60}}$$

Shop B

(Total for question 16 is 3 marks)

- 17 Gary buys a dress in a sale.
The normal price of the dress is reduced by 20%
The normal price is £36.80

Work out the sale price of the dress.

$$\frac{36.80}{10} = £3.68 \quad (10\%)$$

$$3.68 \times 2 = £7.36 \quad (20\%)$$

$$\begin{array}{r} 36.80 \\ - 7.36 \\ \hline 29.44 \end{array}$$

£.....29.44.....

(Total for question 17 is 3 marks)

- 18 Holly invests £500 for 4 years in a bank account.
The account pays simple interest at a rate of 1.5% per year.

Work out the total amount of interest Holly has got at the end of 4 years.

$$\cancel{4 \times 1.5 = 6}$$

$$\frac{500}{100} = 5 \quad (1\%)$$

$$\frac{5}{2} = 2.5 \quad (0.5\%)$$

$$5 + 2.5 = 7.5 \quad (1.5\%)$$

$$7.5 \times 4 = \underline{\underline{30}}$$

£.....30.....

(Total for question 18 is 3 marks)

- 19 Phil invests £800 for 3 years in a bank account.
The account pays simple interest at a rate of 2% per year.

Work out the total amount of interest Phil has got at the end of 3 years.

$$\frac{800}{100} = 8 \quad (1\%)$$

$$8 \times 2 = 16 \quad (2\%)$$

$$16 \times 3 = \underline{\underline{48}}$$

£.....48.....

(Total for question 19 is 2 marks)