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

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

$$\frac{160}{100} = 1.6 \quad (1\%) \qquad 32 + 1.6$$

£ ....33.60........

(Total for question 4 is 2 marks)

5 Find 45% of 820

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

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

$$\begin{array}{r} 410 \\ - \ 41 \\ \hline 369 \end{array}$$

........369........

(Total for question 5 is 2 marks)

6 Find 36% of 2500

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

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

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

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

$$750 + 125 + 25$$

........900........

(Total for question 6 is 2 marks)

7 Work out 252% of 120.

$100\% = 120$

$120 \times 2 = 240 \ (200\%)$

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

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

$1.2 \times 2 = 2.4 \ (2\%)$

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

.... 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.

$\dfrac{90}{2} = 45 \qquad (50\%)$

$\dfrac{45}{2} = 22.5 \qquad (25\%)$

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

$8.2 \times 3 = 24.6 \ (30\%)$

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

$0.82 \times 2 = 1.64 \ (2\%)$

$24.6 - 1.64 = 22.96$

.....28% 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.

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

$10.5 \times 3 = 31.5$

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

$9.8 \times 3 = 29.4 \ (30\%)$

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

$0.98 \times 2 = 1.96 \ (2\%)$

$29.4 + 1.96 = 31.36$

.....30% of 105.....

(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

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

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

$$40 - 39 = 1$$

£ .... 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.

$$48 = 75\%$$
$$\div 3 \qquad \div 3$$
$$16 = 25\%$$
$$\times 4 \qquad \times 4$$
$$64 = 100\%$$

.... 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?

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

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

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

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

$$17 \overline{\smash)459} \quad 27$$

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.

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

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

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

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

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

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	Shop B
5% off the normal price of 48p (each)	65p each Buy 2 get 1 free

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

6×0.48

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

£2.88

$10\% = 28.8p$
$5\% = 14.4p$
$2.88 - 0.14 = £2.74$

Shop B
pay for 4 get 2 free
$0.65 \times 4 = £2.60$

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.

$\dfrac{36.80}{10} = £3.68 \ (10\%)$

$3.68 \times 2 = £7.36 \ (20\%)$

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

£ 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.

$$4 \times 1.5 = 6$$

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

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

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

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

£ .... 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.

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

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

$$16 \times 3 = £48$$

£ .... 48 ....

(Total for question 19 is 2 marks)