

Revision 2	Date	Topic
	wk beg. 10.05.21	Percentages & percentage reduction

Time: 30 mins

Numbers in blue denote total mark awarded for each question.

Total mark: 20 by / 30

1. Complete the table below:

Percentage	Fraction (in most simple form)
a. 70%	7/10
b. 50%	$\frac{1}{2}$
c. $33\frac{1}{3}\%$	1/3
d. 80%	$\frac{4}{5}$
e. 30%	3/10
f. 10%	$\frac{1}{10}$

6

2. Find 20 % of 50.

$$20\% = \frac{1}{5}$$

$$50 \div 5 = \underline{10}$$

1

3. Find 25 % of 48.

$$25\% = \frac{1}{4}$$

$$48 \div 4 = \underline{12}$$

1

4. Find 60 % of 45.

$$60\% = \frac{60}{100} = \frac{3}{5}$$

$$\frac{3}{5} \text{ of } 45 = 45 \div 5 = 9$$
$$9 \times 3 = \underline{27}$$

1

5. Reduce 20 by 25%.

$$25\% \text{ of } 20 = 25\% = \frac{1}{4} \quad 20 \div 4 = 5$$

$$20 - \text{answer} = 20 - 5 = \underline{15}$$

1

6. Reduce 50 by 10%.

$$10\% \text{ of } 50 = 10\% = \frac{1}{10} \quad 50 \div 10 = 5$$

$$50 - \text{answer} = 50 - 5 = \underline{45}$$

1

7. Reduce 35 by 80%.

$$80\% = \frac{80}{100} = \frac{4}{5} \quad 35 \div 5 = 7$$
$$7 \times 4 = 28$$

$$35 - 28 = \underline{7}$$

1

8. Reduce 45 by 40%.

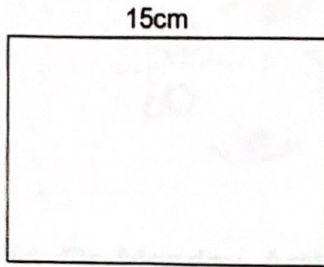
$$40\% = \frac{40}{100} = \frac{2}{5} \quad 45 \div 5 = 9$$
$$9 \times 2 = 18$$

$$\begin{array}{r} 45 \\ - 18 \\ \hline 27 \end{array}$$

2

1

9. The length of a rectangle is 15cm. Its width is  $33\frac{1}{3}\%$  of its length. Find the width.



Find  $33\frac{1}{3}\%$  of 15cm.

$$33\frac{1}{3}\% = \frac{1}{3}$$

$$15 \div 3 = \underline{5\text{cm}}$$

1

10. Use your measurements to find the perimeter AND area of the rectangle above. REMEMBER TO INCLUDE UNITS OF MEASUREMENT IN YOUR ANSWER.

$$\text{Perimeter} = 15\text{cm} + 5\text{cm} + 15\text{cm} + 5\text{cm} = \underline{40\text{cm}}$$

$$\text{Area} = \text{length} \times \text{width} = 15$$

$$\begin{array}{r} \times 5 \\ \hline 75\text{cm}^2 \\ \hline \end{array}$$

2

11. Find the difference between 80% of 55 and 25% of 16.

$$80\% = \frac{4}{5}$$

$$25\% = \frac{1}{4}$$

$$55 \div 5 = 11$$

$$16 \div 4 = 4$$

$$11 \times 4 = 44$$

$$44 - 4 = \underline{40}$$

2

12. Write a number in the space below that makes the statement true.

20 is 25 % of 80.

$$\frac{20}{80} = \frac{1}{4} \quad \frac{1}{4} = 25\%$$

$\xrightarrow{\div 20}$   
 $\xleftarrow{\div 20}$

1

13. What percentage of an hour is 20 minutes?

$$1 \text{ hour} = 60 \text{ minutes}$$

$$\frac{20}{60} = \frac{1}{3} = 33\frac{1}{3}\%$$

1

14. On Monday, Amber runs 1 mile in 15 minutes. On Tuesday, she runs 1 mile in 20% of the time. How long does it take Amber to run 1 mile on Tuesday?

$$20\% \text{ of } 15$$

$$20\% = \frac{1}{5}$$

$$15 \div 5 = 3 \text{ minutes less on Tuesday}$$

$$\text{So... } 15 - 3 = \underline{12 \text{ minutes}}$$

1

15. In a group of 250 people 70% are male. How many men are in the group?

$$70\% = \frac{7}{10}$$

$$250 \div 10 = 25$$

$$\begin{array}{r} 25 \\ \times 7 \\ \hline 175 \end{array}$$

175 men

1

16. Look at the shapes below. Circle the shape that shows 75%?

$$75\% = \frac{3}{4}$$

a.



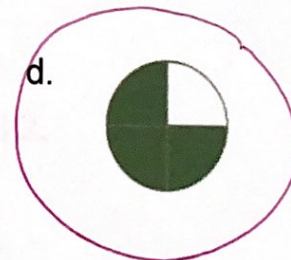
b.



c.

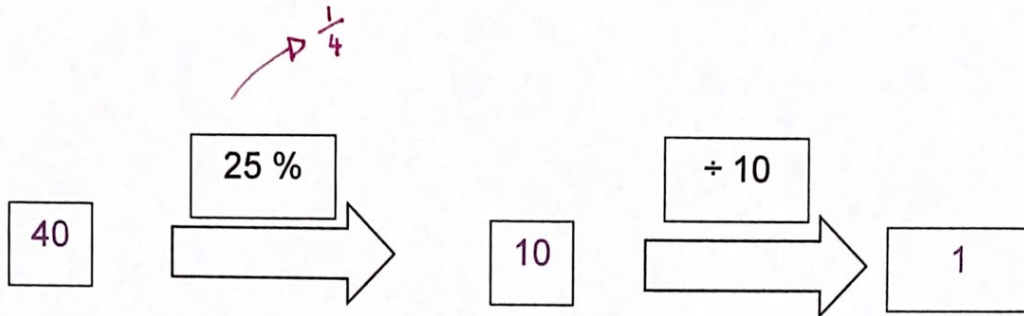


d.



1

17. Look at the function machine below. An example has been done for you.



Complete the table below:

IN	OUT
80	$80 \div 4 = 20 \div 10 = 2$
1 600	$1600 \div 4 = 400 \div 10 = 40$
$6 \times 10 = 60$ $60 \times 4 = 240$	} work in reverse
$30 \times 10 = 300$ $300 \times 4 = 1200$	
	6
	30

$\rightarrow$  % reduction

4

18. In a shop there is a 20% sale on all items. Complete the table below by writing in the price of the items after they have been reduced by 20%. Use the space below to show your working out.

Item	Price	Sale Price
T- Shirt	£15	£ 12
Jeans	£35	£ 28
Trainers	£75	£ 60

$$20\% = \frac{1}{5}$$

Money off                      New price

$$\frac{1}{5} \text{ of } 15 = 15 \div 5 = 3 \qquad 15 - 3 = 12$$

$$\frac{1}{5} \text{ of } 35 = 35 \div 5 = 7 \qquad 35 - 7 = 28$$

3

$$\frac{1}{5} \text{ of } 75 = 5 \overline{) 75}^{15} \qquad 75 - 15 = 60$$