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# PERCENTAGES

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# PERCENTAGES II

## Lesson 1

GCSE (Year 10) Mathematics  
**Percentages II**

*Non Calculator*

### 1.1 Mental Arithmetic Percentages

In “Percentages I” good use was made of the following table to do many calculations without the need to use a calculator. It shows many common fractions and their percentage equivalents.

$\frac{1}{2}$	$\frac{1}{3}$	$\frac{1}{4}$	$\frac{1}{5}$	$\frac{1}{10}$	$\frac{1}{20}$	$\frac{1}{25}$	$\frac{1}{50}$	$\frac{1}{100}$
50%	$33\frac{1}{3}\%$	25%	20%	10%	5%	4%	2%	1%

With this table in mind, tackle the following exercise, intended as revision.

### 1.2 Twenty-One Quick Percentage Questions

## Twenty-One Today

*Work quickly, but accurately.*

*You have 25 minutes to answer as many questions as you can.*

*Do NOT use a calculator - show your working*

#### Question 1

10 % when written as a common fraction, is  $\frac{1}{10}$

Write 70 % as a common fraction.

Answer : \_\_\_\_\_

#### Question 2

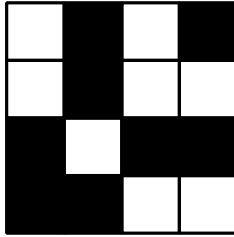
$\frac{1}{5}$  when written as a percentage is 20 %

Write  $\frac{4}{5}$  as a percentage.

Answer : \_\_\_\_\_

**Question 3**

What percentage of the squares in this diagram are black ?



**Answer :** \_\_\_\_\_

**Question 4**

What is 10 % of £4.80 ?

**Answer :** \_\_\_\_\_

**Question 5**

5 % when written as a common fraction is  $\frac{1}{20}$

Write 45 % as a common fraction.

**Answer :** \_\_\_\_\_

**Question 6**

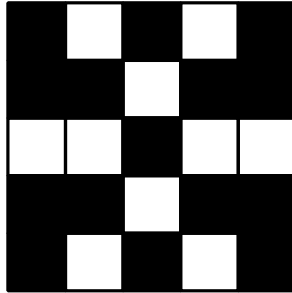
$\frac{1}{25}$  when written as a percentage is 4 %

Write  $\frac{6}{25}$  as a percentage.

**Answer :** \_\_\_\_\_

**Question 7**

What percentage of the squares in this diagram are black ?



**Answer :** \_\_\_\_\_

**Question 8**

What is 20 % of £14.50 ?

**Answer :** \_\_\_\_\_

**Question 9**

25 % when written as a common fraction is  $\frac{1}{4}$

Write  $12\frac{1}{2}$  % as a common fraction.

**Answer :** \_\_\_\_\_

**Question 10**

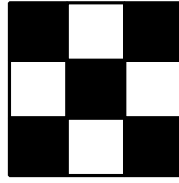
$\frac{1}{9}$  when written as a percentage is  $11\frac{1}{9}$  %

Write  $\frac{2}{9}$  as a percentage.

**Answer :** \_\_\_\_\_

**Question 11**

What percentage of the squares in this diagram are black ?



**Answer :** \_\_\_\_\_

**Question 12**

What is 25 % of £8.48 ?

**Answer :** \_\_\_\_\_

**Question 13**

Increase £8 by 15 %

**Answer :** \_\_\_\_\_

**Question 14**

Decrease £8 by 15 %

**Answer :** \_\_\_\_\_

**Question 15**

I open a savings account with £400.

It pays interest at 4 % per annum.

How much is in my account after one year ?

**Answer :** \_\_\_\_\_

**Question 16**

5 % when written as a common fraction is  $\frac{1}{20}$

Write 95 % as a common fraction.

**Answer :** \_\_\_\_\_

**Question 17**

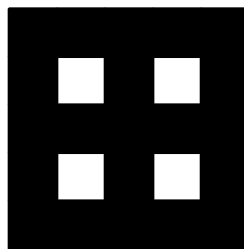
$\frac{1}{25}$  when written as a percentage is 4%

Write  $\frac{24}{25}$  as a percentage.

**Answer :** \_\_\_\_\_

**Question 18**

What percentage of the squares in this diagram are black ?



**Answer :** \_\_\_\_\_

**Question 19**

$\frac{1}{6}$  when written as a percentage is  $16\frac{2}{3}\%$

Write  $\frac{5}{6}$  as a percentage.

**Answer :** \_\_\_\_\_

**Question 20**

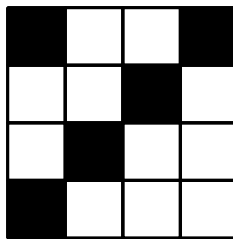
$6\frac{1}{4}\%$  when written as a common fraction is  $\frac{1}{16}$

Write  $93\frac{3}{4}\%$  as a common fraction.

**Answer :** \_\_\_\_\_

**Question 21**

What percentage of the squares in this diagram are black ?



**Answer :** \_\_\_\_\_