

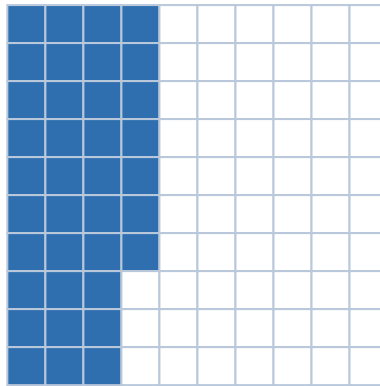
GCSE Maths: Percentages, fractions and decimals (Higher): answers

GCSE Maths - Percentages - Higher - Lesson 5.1

Answers. Final answers to the worksheet questions. Full step-by-step solutions for every question are free at websink.site/gcse/maths/ch05-percentages/higher/percentages-fractions-and-decimals/

Exercise 5A Percentages, fractions and decimals Non-calculator

- 1 In the hundred square, 37 of the small squares are shaded.



- (a) Write the shaded part as a fraction out of 100.

Answer: $\frac{37}{100}$

- (b) Write the shaded part as a percentage.

Answer: 37%

- (c) Write the shaded part as a decimal.

Answer: 0.37

- 2 Write each percentage as a decimal.

- (a) 8%

Answer: 0.08

- (b) 45%

Answer: 0.45

- (c) 70%

Answer: 0.7

- (d) 3%

Answer: 0.03

- (e) 125%

Answer: 1.25

- (f) 12.5%

Answer: 0.125

3 Write each percentage as a fraction in its simplest form.

(a) 50%

Answer: $\frac{1}{2}$

(b) 20%

Answer: $\frac{1}{5}$

(c) 15%

Answer: $\frac{3}{20}$

(d) 45%

Answer: $\frac{9}{20}$

(e) 4%

Answer: $\frac{1}{25}$

(f) 85%

Answer: $\frac{17}{20}$

4 Write each decimal as a percentage.

(a) 0.27

Answer: 27%

(b) 0.9

Answer: 90%

(c) 0.05

Answer: 5%

(d) 0.375

Answer: 37.5%

(e) 1.2

Answer: 120%

(f) 2.5

Answer: 250%

5 Write each fraction as a percentage. (Hint: make the denominator 100.)

(a) $\frac{7}{10}$

Answer: 70%

(b) $\frac{9}{25}$

Answer: 36%

(c) $\frac{3}{20}$

Answer: 15%

(d) $\frac{17}{50}$

Answer: 34%

(e) $\frac{11}{20}$

Answer: 55%

(f) $\frac{13}{25}$

Answer: 52%

6 Write each fraction as a percentage. You need to divide the top by the bottom.

(a) $\frac{3}{8}$

Answer: 37.5%

(b) $\frac{5}{8}$

Answer: 62.5%

(c) $\frac{7}{40}$

Answer: 17.5%

(d) $\frac{9}{16}$

Answer: 56.25%

7 Write each fraction as a decimal and as a percentage.

(a) $\frac{3}{5}$

Answer: 0.6 = 60%

(b) $\frac{7}{20}$

Answer: 0.35 = 35%

(c) $\frac{17}{25}$

Answer: 0.68 = 68%

(d) $\frac{1}{8}$

Answer: 0.125 = 12.5%

8 Write these in order, starting with the smallest.

- (a) $\frac{3}{5}$, 0.55, 62%

Answer: 0.55, $\frac{3}{5}$, 62%

- (b) 0.4, $\frac{7}{20}$, 36%

Answer: $\frac{7}{20}$, 36%, 0.4

- (c) 45%, $\frac{9}{20}$, 0.405, $\frac{2}{5}$

Answer: $\frac{2}{5}$, 0.405, 45%, $\frac{9}{20}$

9 Mia says, "5% as a decimal is 0.5." Is she right? Explain your answer.

Answer: No. 5% = 0.05

10 Which is bigger, 0.4 or 4%? Show how you know.

Answer: 0.4 is bigger (0.4 = 40%)

11 In a class of 25 students, 18 walk to school.

- (a) What percentage of the class walk to school?

Answer: 72%

- (b) What percentage do not walk to school?

Answer: 28%

12 Three phones show their battery levels as 0.35, $\frac{3}{8}$ and 36%. Write the three battery levels in order, **largest first**.

Answer: $\frac{3}{8}$, 36%, 0.35

13 One shop has " $\frac{1}{4}$ off all T-shirts". Another has "20% off all T-shirts". Which shop has the bigger discount?

Answer: The first shop (25% is more than 20%)

14 Is $\frac{3}{7}$ bigger or smaller than 40%? Show your working. (Do not use a calculator.)

Answer: $\frac{3}{7}$ is bigger than 40%

15 Write each fraction as a percentage. Give your answers correct to 1 decimal place.

- (a) $\frac{1}{3}$

Answer: 33.3%

- (b) $\frac{5}{6}$

Answer: 83.3%

(c) $\frac{2}{9}$

Answer: 22.2%

(d) $\frac{7}{12}$

Answer: 58.3%

16 Write each percentage as a fraction in its simplest form.

(a) 0.8%

Answer: $\frac{1}{125}$

(b) 2.5%

Answer: $\frac{1}{40}$

(c) 12.5%

Answer: $\frac{1}{8}$

(d) 0.05%

Answer: $\frac{1}{2000}$

17 Write down a fraction with denominator 40 that is bigger than 30% but smaller than 35%.

Answer: $\frac{13}{40}$