

Percentages: Lesson Slides & Worksheet

Ages 11–14 · Maths

Name _____ Class _____ Date _____

A Key terms: match each term to its meaning

Write the letter of the correct meaning in the box next to each term.

- | | |
|-----------------------------|--|
| 1 Percentage | ☐ A The plain difference between two percentages; 40% to 50% is a rise of 10 percentage points. |
| 2 Multiplier | ☐ B A number of parts out of 100; 37% means 37 out of every 100. |
| 3 Percentage change | ☐ C A problem where you know the value after a percentage change and must find the original value. |
| 4 Original value | ☐ D The decimal you multiply by to change an amount in one step; 1.15 for a 15% increase, 0.75 for a 25% decrease. |
| 5 Reverse percentage | ☐ E The value before an increase or decrease; percentages of change are always worked out from it. |
| 6 Percentage point | ☐ F The change in a value as a percentage of its original value: $\text{change} \div \text{original} \times 100$. |

B Quick quiz

Circle the best answer, write its letter, then explain your choice in a few words.

- 1 What is $\frac{3}{5}$ written as a percentage?**

- a) 35% b) 60%
- c) 53% d) 0.6%

Answer: _____ Why? _____

- ## 2 What is 15% of USD 260?

- a) USD 39 b) USD 26
c) USD 15 d) USD 221

Answer: _____ Why? _____

- 3** A town's population rises from 8,000 to 9,000. What is the percentage increase?

- a) 1,000% b) 11.1%
- c) 12.5% d) 125%

Answer: _____ Why? _____

- 4** After a 30% reduction, a coat costs GBP 84. What was the original price?

- a) GBP 109.20 b) GBP 120
c) GBP 114 d) GBP 58.80

Answer: Why?

- 5 Which multiplier decreases an amount by 8%?**

- a) 0.8
b) 1.08
c) 0.92
d) 0.08

Answer: _____ Why? _____

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Answer key for teachers · Ages 11–14 · Maths

A Key terms

1 Percentage	B	A number of parts out of 100; 37% means 37 out of every 100.
2 Multiplier	D	The decimal you multiply by to change an amount in one step; 1.15 for a 15% increase, 0.75 for a 25% decrease.
3 Percentage change	F	The change in a value as a percentage of its original value: $\text{change} \div \text{original} \times 100$.
4 Original value	E	The value before an increase or decrease; percentages of change are always worked out from it.
5 Reverse percentage	C	A problem where you know the value after a percentage change and must find the original value.
6 Percentage point	A	The plain difference between two percentages; 40% to 50% is a rise of 10 percentage points.

B Quick quiz

1 b) 60%

$3 \div 5 = 0.6$, and $0.6 \times 100 = 60\%$. You could also scale the fraction: $3/5 = 60/100 = 60\%$.

2 a) USD 39

10% of 260 is 26 and 5% is 13, so 15% is $26 + 13 = 39$. With a calculator: $0.15 \times 260 = 39$. USD 221 is the price after a 15% decrease.

3 c) 12.5%

The change is 1,000. Divide by the original value: $1,000 \div 8,000 \times 100 = 12.5\%$. Dividing by the new value, 9,000, gives the wrong answer of 11.1%.

4 b) GBP 120

GBP 84 is 70% of the original, so the original is $84 \div 0.7 = \text{GBP } 120$. Check: $120 \times 0.7 = 84$. Adding 30% to 84 gives GBP 109.20, which is wrong.

5 c) 0.92

A decrease of 8% leaves $100\% - 8\% = 92\%$ of the amount, so the multiplier is 0.92. Multiplying by 0.08 finds only the 8%, and 1.08 is an 8% increase.