

Percentages

Fractions, Decimals & % · Grade 7

Score: _____ / 10

★ Hard · 10 Questions

Solve each problem. Show your work in the space provided. Write your answer on the line.

1. A shop offers 30% off, then an extra 10% off the sale price.
What is the total % discount?

Answer: _____

2. A savings account earns 5% simple interest per year.
You deposit \$600. How much will you have after 4 years?

Answer: _____

3. A population grows from 4,000 to 5,000. Find the percent increase.

Answer: _____

4. An item is marked up 40% then discounted by 25%. If original cost is \$100, what is final price?

Answer: _____

5. A \$250 phone has a 12% sales tax, then a 10% rebate on the total. Find final cost.

Answer: _____

6. After a 15% increase, a price is \$46. What was the original price?

Answer: _____

7. Stock value drops 20% then rises 25%. What is the net change?

Answer: _____

8. A bank pays 4% simple interest yearly. After 3 years, the total in the account is \$1,120. Find the original deposit.

Answer: _____

9. A car depreciates 15% per year. Original value \$20,000. Find value after 2 years.

Answer: _____

10. A test has 80 questions. To get 70%, how many must be correct?

Answer: _____

Answer Key

Percentages — Hard

1. 37%

Start: 100. After 30% off: 70. After 10% off 70: 63. Discount = 37%.

2. \$720

Simple interest: $I = P \times r \times t = 600 \times 0.05 \times 4 = \120 . Total: $600 + 120 = \$720$.

3. 25%

Increase = 1,000. $(1000/4000) \times 100 = 25\%$.

4. \$105

Marked up: $\$100 \times 1.40 = \140 . Discounted: $\$140 \times 0.75 = \105 .

5. \$252

With tax: $\$250 \times 1.12 = \280 . After rebate: $\$280 \times 0.90 = \252 .

6. \$40

$\$46 = 1.15 \times \text{original}$. $\text{Original} = \$46 \div 1.15 = \40 .

7. 0% (back to original)

Drop: $\times 0.80$. Rise: $\times 1.25$. Combined: $0.80 \times 1.25 = 1.00 \rightarrow \text{no change}$.

8. \$1,000

Total = $P(1+rt)$. $1,120 = P(1+0.04 \times 3) = 1.12P$. $P = \$1,000$.

9. \$14,450

Year 1: $\$20,000 \times 0.85 = \$17,000$. Year 2: $\$17,000 \times 0.85 = \$14,450$.

10. 56 questions

70% of 80 = $0.70 \times 80 = 56$ questions.