

Percents as Rates per 100

Grade 6 math · Worksheet Answer Key · Standards: 6.RP.A.3c

Every problem has a worked solution with the final answer in bold. Bar models are drawn where they help, so compare the model with your own picture as well as the final number.

Standards: 6.RP.A.3c · **Level:** Grade 6

Problem 1 Meaning of Percent

45% means 45 per 100, or $45 : 100$. As a fraction, $\frac{45}{100} = \frac{9}{20}$. As a decimal, $45 \div 100 = 0.45$.

Answer: **45 : 100, $\frac{9}{20}$, 0.45.**

Problem 2 Reading a Hundred Grid

28 of 100 squares are shaded, so the percent is 28%.

Decimal: 0.28. Fraction: $\frac{28}{100} = \frac{7}{25}$.

Answer: **28%, 0.28, $\frac{7}{25}$.**

Problem 3 Fractions to Percents

(a) $3 \div 4 = 0.75 = 75\%$.

(b) $\frac{7}{20} = \frac{35}{100} = 35\%$.

(c) $1 \div 8 = 0.125 = 12.5\%$.

Answer: **(a) 75%; (b) 35%; (c) 12.5%.**

Problem 4 Decimals to Percents

Multiply each by 100 by moving the decimal point two places right.

Answer: **(a) 62%; (b) 7%; (c) 140%.**

Problem 5 Percents to Fractions

(a) $\frac{40}{100} = \frac{2}{5}$.

(b) $\frac{85}{100} = \frac{17}{20}$.

(c) $\frac{6}{100} = \frac{3}{50}$.

Answer: **(a) $\frac{2}{5}$; (b) $\frac{17}{20}$; (c) $\frac{3}{50}$.**

Problem 6 Percent of a Number

(a) $0.30 \times 80 = 24$.

(b) $0.15 \times 60 = 9$.

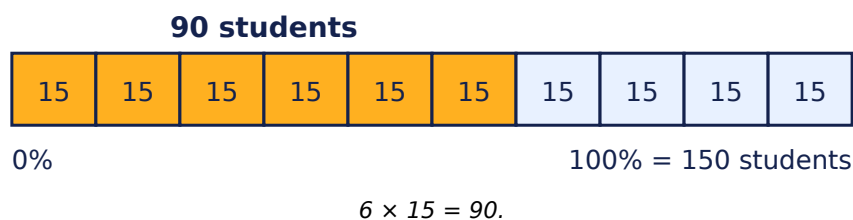
(c) $0.08 \times 250 = 20$.

Answer: **(a) 24; (b) 9; (c) 20.**

Problem 7 Percent Bar Model

One part is $150 \div 10 = 15$ students. Six parts are $6 \times 15 = 90$ students. The shaded part is 6 of 10 parts, which is 60%.

Answer: **90 students, 60%.**



Problem 8 Finding the Percent

(a) $21 \div 28 = 0.75 = 75\%$.

(b) $9 \div 36 = 0.25 = 25\%$.

(c) $14 \div 40 = 0.35 = 35\%$.

Answer: **(a) 75%; (b) 25%; (c) 35%.**

Problem 9 Ordering Numbers

Write each as a percent: $0.45 = 45\%$, $\frac{3}{8} = 37.5\%$, 41% , $\frac{2}{5} = 40\%$.

Order: 37.5% , 40% , 41% , 45% .

Answer: $\frac{3}{8}$, $\frac{2}{5}$, **41%** , **0.45** .

Problem 10 A Decimal Percent

$12.5\% = 0.125$, and $0.125 \times 480 = 60$. Check: 12.5% is one eighth, and $480 \div 8 = 60$.

Answer: **60**.

Problem 11 Finding the Whole

(a) $18 \div 0.30 = 60$.

(b) $24 \div 0.15 = 160$.

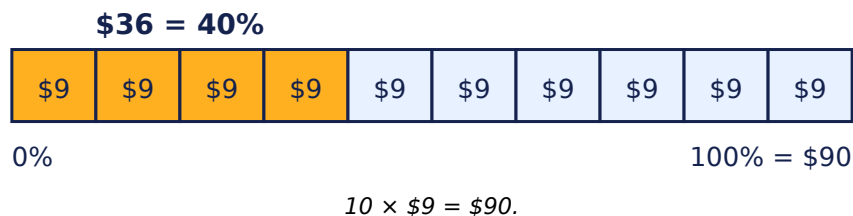
Check: $0.30 \times 60 = 18$ and $0.15 \times 160 = 24$.

Answer: **(a) 60; (b) 160**.

Problem 12 Whole from a Bar Model

Four parts equal \$36, so one part is $36 \div 4 = \$9$. Ten parts are $10 \times 9 = \$90$.

Answer: **\$90**.



Problem 13 More Than 100 Percent

$130\% = 1.30$, and $1.30 \times 2,400 = 3,120$.

Answer: **\$3,120**.

Problem 14 Savings Bar

Saved: $13 \times 4 = \$52$. Percent: $52 \div 80 = 0.65 = 65\%$. Check: each part is 5% and $13 \times 5\% = 65\%$.

Answer: **\$52, which is 65% of the goal.**

Problem 15 Restaurant Tip

Tip: $0.18 \times 64 = 11.52$.

Total: $64 + 11.52 = 75.52$.

Answer: **\$11.52 tip and \$75.52 total.**

Problem 16 Jacket Sale

Discount: $0.40 \times 85 = 34$.

Sale price: $85 - 34 = 51$. Check: the price is 60% of 85, and $0.60 \times 85 = 51$.

Answer: **\$34 discount and \$51 sale price.**

Problem 17 Survey Results

Whole: $63 \div 0.35 = 180$ students.

Not pizza: $180 - 63 = 117$.

Answer: **180 students surveyed and 117 did not choose pizza.**

Problem 18 Town Growth

Growth: $0.15 \times 4,200 = 630$.

New population: $4,200 + 630 = 4,830$. Check: 115% of 4,200 is $1.15 \times 4,200 = 4,830$.

Answer: **4,830 people.**

Problem 19 Fundraiser Goal

Friday: $0.84 \times 2,500 = 2,100$. After Saturday: $2,100 + 275 = 2,375$.

Percent: $2,375 \div 2,500 = 0.95 = 95\%$. Still needed: $2,500 - 2,375 = 125$.

Answer: **95% reached, \$125 still needed.**

Problem 20 Comparing Discounts

A: $0.75 \times 120 = 90$. B: $0.85 \times 110 = 93.50$.

$93.50 - 90 = 3.50$.

Answer: **Store A's coat costs \$3.50 less.**