

Grade 6 · Percents · Worksheet Answer Key

Common Core 6.RP.A.3c · mathovore.fr

This answer key shows a full worked solution for each of the 20 percents problems, with every step and a check. Compare your method and the bold final answers, especially where the problem asks for a part, a whole, or a percent.

Grade 6 Common Core: 6.RP.A.3c

Problem 1: Percent to fraction and decimal

Fraction: $35\% = \frac{35}{100}$. The greatest common factor of 35 and 100 is 5, so $\frac{35 \div 5}{100 \div 5} = \frac{7}{20}$.

Decimal: $35 \div 100 = 0.35$.

$\frac{7}{20}$ and 0.35.

Problem 2: Percent grid

- a. $60\% = \frac{60}{100}$. The greatest common factor is 20, so $\frac{60 \div 20}{100 \div 20} = \frac{3}{5}$. Decimal: $60 \div 100 = 0.6$. $\frac{3}{5}$ and 0.6
- b. $4\% = \frac{4}{100}$. The greatest common factor is 4, so $\frac{4 \div 4}{100 \div 4} = \frac{1}{25}$. Decimal: $4 \div 100 = 0.04$. $\frac{1}{25}$ and 0.04

Problem 3: Fraction and decimal to percent

(a) $\frac{3}{4} = \frac{75}{100} = 75\%$.

(b) $0.08 \times 100 = 8$, so $0.08 = 8\%$.

(a) 75%. (b) 8%.

Problem 4: Fractions and decimals to percents

- a. $\frac{9}{20} = \frac{45}{100} = 45\%$
- b. $0.3 \times 100 = 30$, so 30%
- c. $3 \div 8 = 0.375$, and $0.375 \times 100 = 37.5$, so 37.5%
- d. $0.075 \times 100 = 7.5$, so 7.5%

Problem 5: Percent of a number

Write 25% as 0.25: $0.25 \times 80 = 20$.

Check: 25% is one fourth, and $80 \div 4 = 20$.

20.

Problem 6: Benchmark percents

- a. 10% is one tenth: $340 \div 10 = 34$. 34
- b. 50% is one half: $86 \div 2 = 43$. 43
- c. 75% is three fourths: $120 \div 4 = 30$ and $3 \times 30 = 90$. 90
- d. 20% is two tenths: $45 \div 10 = 4.5$ and $2 \times 4.5 = 9$. 9

Problem 7: Percent of a quantity

40% = 0.40. Multiply: $0.40 \times 65 = 26$.

26 miles.

Problem 8: Ordering numbers

Write every number as a decimal.

60% = 0.60, $\frac{5}{8} = 5 \div 8 = 0.625$, and 0.62 stays the same.

Compare: $0.60 < 0.62 < 0.625$.

From least to greatest: 60%, 0.62, $\frac{5}{8}$.

Problem 9: Bake sale percent

15% = 0.15. Multiply: $0.15 \times 60 = 9$.

9 oatmeal cookies.

Problem 10: Potatoes at the market

Write 30% as 0.30. Multiply: $0.30 \times 250 = 75$.

Check with the bar: 10% is $250 \div 10 = 25$ pounds, so 30% is $3 \times 25 = 75$ pounds.

75 pounds.

Problem 11: What percent is it

- a. Divide the part by the whole: $21 \div 25 = 0.84$, and $0.84 = 84\%$. 84%
- b. Divide: $18 \div 40 = 0.45$, and $0.45 = 45\%$. 45%

Problem 12: Free throws

Divide the part by the whole: $18 \div 24 = 0.75$.

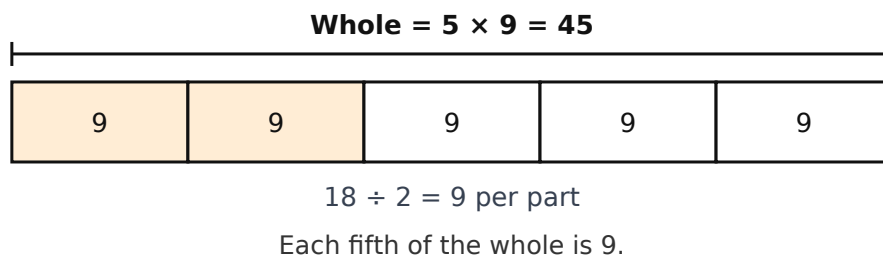
$0.75 = 75\%$.

75%.

Problem 13: Finding the whole from a percent

a. Divide the part by the percent as a decimal: $18 \div 0.40 = 45$. Check: $0.40 \times 45 = 18$. **45**

b. $12 \div 0.15 = 80$. Check: $0.15 \times 80 = 12$. **80**



Problem 14: Finding the whole

Divide the part by the percent as a decimal: $21 \div 0.30 = 70$.

Check: $0.30 \times 70 = 21$.

70.



Each part is $21 \div 3 = 7$, so the whole is 70.

Problem 15: Restaurant tip

(a) $15\% = 0.15$. Tip: $0.15 \times 48 = 7.20$.

(b) Total: $48 + 7.20 = 55.20$.

(a) \$7.20. (b) \$55.20.

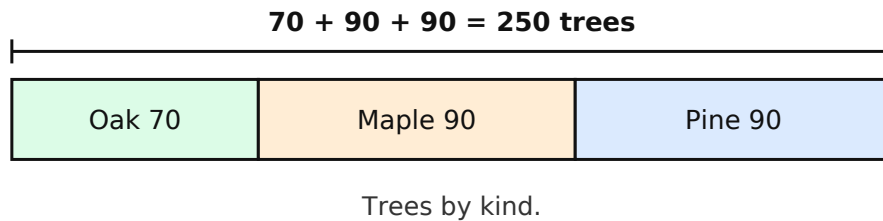
Problem 16: Trees in the park

Oaks: $0.28 \times 250 = 70$. Maples: $0.36 \times 250 = 90$.

Pines are the rest: $100\% - 28\% - 36\% = 36\%$, and $0.36 \times 250 = 90$.

Check: $70 + 90 + 90 = 250$.

70 oaks, 90 maples, and 90 pines.

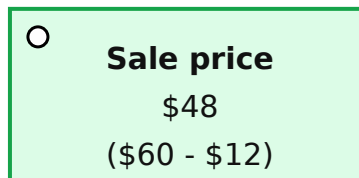


Problem 17: Sale price

(a) $20\% = 0.20$. Discount: $0.20 \times 60 = 12$.

(b) Sale price: $60 - 12 = 48$.

(a) \$12. (b) \$48.



Discount \$12, sale price \$48.

Problem 18: Cupcake sales

45 cupcakes is 75% of the whole. Divide: $45 \div 0.75 = 60$.

Check: $0.75 \times 60 = 45$.

60 cupcakes.



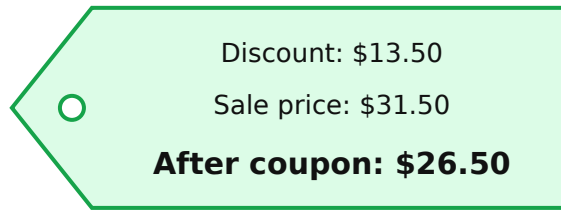
3 parts of 15 make 45, so the whole of 4 parts is 60.

Problem 19: Jersey sale

a. $0.30 \times 45 = 13.50$. \$13.50

b. $45 - 13.50 = 31.50$. \$31.50

c. $31.50 - 5 = 26.50$. \$26.50



Noah pays \$26.50.

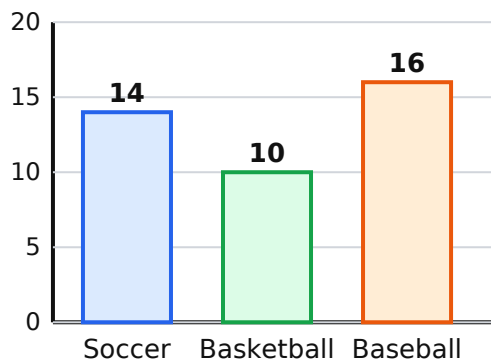
Problem 20: Class survey

Soccer: $0.35 \times 40 = 14$ students. Basketball: $0.25 \times 40 = 10$ students.

Baseball is the rest: $100\% - 35\% - 25\% = 40\%$, and $0.40 \times 40 = 16$.

Check: $14 + 10 + 16 = 40$.

14 chose soccer, 10 chose basketball, 16 chose baseball.



Number of students who chose each sport.