

# Percents and Ratios

Name \_\_\_\_\_

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Solve each problem.

1) 57.5 is what percent of 143.4?

$$57.5 = x\% \times 143.4 \rightarrow 40.1 = x$$

$$100x \cdot 57.5 = x \cdot 143.4$$

$$5750 = x \cdot 143.4$$

3) 15 is what percent of 23?

$$15 = \frac{x}{100} \times 23$$

$$1500 = x \cdot 23$$

$$\frac{1500}{23} = \frac{x \cdot 23}{23}$$

$$65.2 = x$$

5) 12 is what percent of 8?

$$12 = \frac{x}{100} \cdot 8$$

$$\frac{1200}{8} = \frac{x \cdot 8}{8}$$

$$150 = x$$

7) What is 65% of 81?

$$x = \frac{65}{100} \times 81$$

$$x = 0.65 \times 81$$

$$x = 52.7$$

9) What is 340% of 28.6?

$$x = \frac{340}{100} \times 28.6$$

$$x = 3.40 \times 28.6$$

$$x = 97.24$$

11) What is 79% of 117?

$$x = \frac{79}{100} \times 117$$

$$x = .79 \times 117$$

$$x = 92.4$$

2) 67 is what percent of 123?

$$67 = \frac{x}{100} \times 123$$

$$6700 = \frac{x \cdot 123}{123}$$

$$54.5 = x$$

4) 32 is what percent of 96?

$$32 = \frac{x}{100} \times 96$$

$$\frac{3200}{96} = \frac{x \cdot 96}{96}$$

$$33.3 = x$$

6) 82.8 is what percent of 29?

$$82.8 = \frac{x}{100} \times 29$$

$$\frac{8280}{29} = \frac{x \cdot 29}{29}$$

$$285.5 = x$$

8) What is 75% of 117?

$$x = \frac{75}{100} \times 117$$

$$x = .75 \times 117$$

$$x = 87.75$$

10) What is 11% of 25?

$$x = \frac{11}{100} \times 25$$

$$x = .11 \times 25$$

$$x = 2.75$$

12) What is 300% of 52?

$$x = \frac{300}{100} \times 52$$

$$x = 3.00 \times 52$$

$$x = 156$$

Harder.

13) 23 is 36% of what?

$$23 = \frac{36}{100} \times x \rightarrow 639 = x$$

$$\frac{23}{.36} = \frac{.36 \times x}{.36}$$

15) 145 is 140% of what?

$$145 = \frac{140}{100} \times x \rightarrow 103.6 = x$$

$$145 = 1.40 \times x$$

17) 93 is 94% of what?

$$93 = \frac{94}{100} \times x \rightarrow 98.9 = x$$

$$93 = .94 \times x$$

14) 34% of what is 54?

$$\frac{34}{100} \times x = 54 \rightarrow x = 158.8$$

$$\frac{34 \times x}{34} = \frac{54}{.34}$$

16) 87% of what is 158?

$$\frac{87}{100} \times x = 158 \rightarrow x = 181.61$$

$$.87 \times x = 158$$

18) 135 is 1% of what?

$$135 = \frac{1}{100} \times x \rightarrow 13500 = x$$

$$135 = .01 \times x$$

Solve each proportion.

$$19) \frac{x}{4} = \frac{8}{2}$$

$$x = \frac{32}{2}$$

$$\boxed{x = 16}$$

$$21) \frac{4}{b} = \frac{9}{2} \text{ FLIP!}$$

$$4 \times \frac{b}{4} = \frac{2}{9} \times 4$$

$$\boxed{b = \frac{8}{9} = 0.89}$$

$$23) \frac{10}{6} = \frac{6b}{3}$$

$$\frac{30}{6} = 6b$$

$$\frac{5}{6} = \frac{6b}{6}$$

$$\boxed{0.83 = b}$$

$$25) \frac{10}{6} = \frac{n+6}{7}$$

$$\frac{70}{6} = n+6$$

$$11.67 = n+6$$

$$\frac{-6}{-6} \quad \frac{-6}{-6}$$

$$\boxed{5.67 = n}$$

$$27) \frac{8}{4b-8} = \frac{12}{30}$$

$$8 \times \frac{4b-8}{8} = \frac{30 \times 8}{12}$$

$$4b-8 = \frac{240}{12}$$

$$4b-8 = 20$$

$$+8 \quad +8$$

$$\frac{4b}{4} = \frac{28}{4}$$

$$\boxed{b = 7}$$

$$20) \frac{5}{4} = \frac{m}{8}$$

$$\frac{15}{4} = m$$

$$\boxed{3.75 = m}$$

$$22) \frac{7}{10} = \frac{x}{8}$$

$$\frac{21}{10} = x$$

$$\boxed{2.1 = x}$$

$$24) \frac{5}{7} = \frac{3}{8m} \text{ FLIP!}$$

$$5 \times \frac{7}{5} = \frac{8m \times 3}{7}$$

$$\frac{21}{5} = 8m$$

$$\frac{4.2 = 8m}{8 \quad 8}$$

$$\boxed{0.525 = m}$$

$$26) \frac{3}{b-9} = \frac{6}{10} \text{ FLIP!}$$

$$3 \times \frac{b-9}{3} = \frac{60}{6} \times 3$$

$$b-9 = 30$$

$$b-9 = 5$$

$$+9 \quad +9$$

$$\boxed{b = 14}$$

$$28) \frac{14}{42} = \frac{\frac{b}{5} + 7}{36}$$

$$\frac{504}{42} = \frac{b}{5} + 7$$

$$12 = \frac{b}{5} + 7$$

$$-7 \quad -7$$

$$5 \times 5 = \frac{b}{5} \times 5$$

$$\boxed{25 = b}$$