

Math 01 Skills Practice: Ratios and Proportions

Here are practice problems involving ratios and proportions, corresponding to Chapter 4 of the textbook. Remember to answer word problems with a sentence. Solutions to odd numbered questions are at the end. Similar questions will be on the final.

Q1. Solve the proportion: $\frac{6}{8} = \frac{x}{12}$

Q2. Solve the proportion: $\frac{7}{x} = \frac{21}{24}$

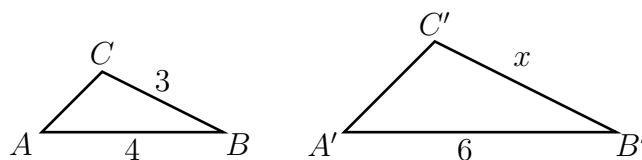
Q3. Solve: $\frac{5}{x} = \frac{22}{42}$

Q4. Solve: $\frac{30}{36} = \frac{13}{x}$

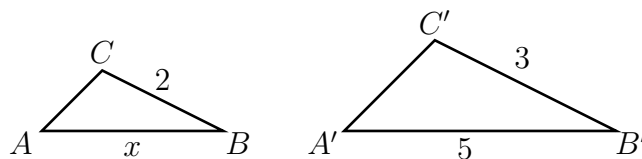
Q5. Solve the proportion: $\frac{y}{11} = \frac{3}{10}$

Q6. Solve the proportion: $\frac{1}{3} = \frac{y}{4}$

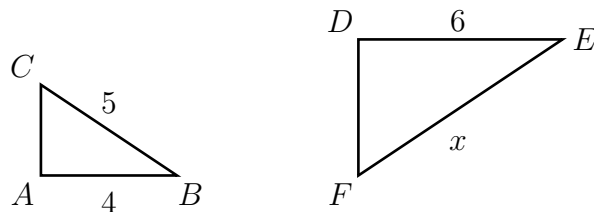
Q7. If triangle ABC is similar to triangle $A'B'C'$, find the missing side x .



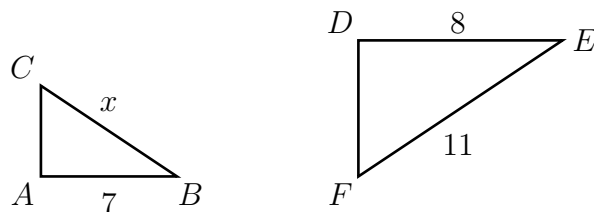
Q8. If triangle ABC is similar to triangle $A'B'C'$, find the missing side x .



Q9. Find the missing side x if $\triangle ABC$ is similar to $\triangle DEF$.



Q10. Find the missing side x if $\triangle ABC$ is similar to $\triangle DEF$.



- Q11.** Find 24% of 93
- Q12.** Find 67% of 51
- Q13.** Suppose 18% of a number is 30. Find the number correct to one decimal place.
- Q14.** Suppose 110% of a number is 40. Find the number correct to two decimal places.
- Q15.** Express the ratio 11 : 15 as a percent, correct to the nearest tenth of a percent.
- Q16.** Express the ratio 1 : 11 as a percent, correct to the nearest tenth of a percent.
- Q17.** If a team wins 20 games out of a total of 35 games, what percentage of games did it win (correct to the nearest percent)?
- Q18.** If a team wins 5 games and loses 15 games, what percentage of games did it win?
- Q19.** If a team wins only 15% of its games and it wins 12 games, how many games did it play?
- Q20.** If a team wins 80% of its games and it wins 44 games, how many games did it play?
- Q21.** If a car gets 20 miles to the gallon, how many gallons are needed to go 50 miles?
- Q22.** If a car gets 12 miles to the gallon, how many gallons are needed to go 66 miles?
- Q23.** If a car can go 70 miles with 3 gallons of gas, how far can it go with 5 gallons?
- Q24.** If a car can go 85 miles with 4 gallons of gas, how far can it go with 7 gallons?
- Q25.** If 11 gallons of gas is \$40, how much does 15 gallons cost, to the nearest cent?
- Q26.** If 11 gallons of gas is \$40, how many gallons do you get for \$50?
- Q27.** If a 4 foot high post casts a 3 foot shadow, how tall is a tree with a 40 foot shadow?
- Q28.** If a 5 foot post casts a 2 foot shadow, how long is the shadow of a tree that is 70 feet high?
- Q29.** On a map, 2 inches represents 35 miles. If two towns are 5 inches apart on the map, what is the actual distance between them?
- Q30.** On a map, 4 inches represents 150 miles. If two towns are 3 inches apart on the map, what is the actual distance between them?

Answers to odd numbered questions.

Q1: $x = 9$ **Q3:** $x = 9\frac{6}{11}$ **Q5:** $y = 3\frac{3}{10}$ **Q7:** $x = 4\frac{1}{2}$ **Q9:** $x = 7\frac{1}{2}$ **Q11:** 22.32 or $22\frac{8}{25}$ **Q13:** The number is 166.7 **Q15:** 73.3% **Q17:** The team won 57% of its games. **Q19:** The team played 80 games. **Q21:** $2\frac{1}{2}$ or 2.5 gallons are needed. **Q23:** It can go $116\frac{2}{3}$ miles. **Q25:** It costs \$54.55 to nearest cent. **Q27:** The tree is $53\frac{1}{3}$ feet tall. **Q29:** Distance between towns is $87\frac{1}{2}$ miles.