

WRITING RATIOS AND SOLVING RATIO PROBLEMS

The girls’ soccer team won 10 games and lost 2, and the boys’ soccer team won 12 games and lost 3. Write each ratio in simplest form.

1. What is the ratio of the girls’ wins to their losses?
2. What is the ratio of the boys’ wins to their losses?
3. What is the ratio of the girls’ wins to the total number of games played?
4. What is the ratio of the boys’ wins to the total number of games played?
5. Which team had the greater winning ratio?

Answer each question by writing an solving an equation using the given ratio.

6. A baseball team played 154 regular season games. The ratio of the number of games they won to the number of games they lost was 5:2. How many games did they win? How many did they lose?

Wins = _____

Loses = _____

7. The measure of two supplementary angles are in the ratio of 5:7. What is the measure of the larger angle?

Larger angle = _____

8. The lengths of the sides of a triangle are in the extended ratio 6:7:9. The perimeter of the triangle is 88 cm. What are the lengths of the sides?

Side 1 = _____

Side 2 = _____

Side3 = _____

9. The measures of the angles of a triangle are in the extended ratio 4:3:2. What is the measure of the largest angle?

Largest angle = _____

USING PROPORTIONS

Solve each proportion by cross multiplying. Show your work.

10. $\frac{5}{13} = \frac{m}{52}$

11. $\frac{x}{3} = \frac{10}{15}$

12. $\frac{y}{10} = \frac{2}{5}$

13. $\frac{17}{24} = \frac{m}{120}$

Solve each proportion by cross multiplying. Show your work.

14. $\frac{2}{v-3} = \frac{3}{v}$

15. $\frac{6}{x} = \frac{8}{x+3}$

16. $\frac{5}{2y-7} = \frac{3}{y}$

17. $\frac{4}{x+2} = \frac{16}{x+5}$

Write and solve a proportion to answer each question.

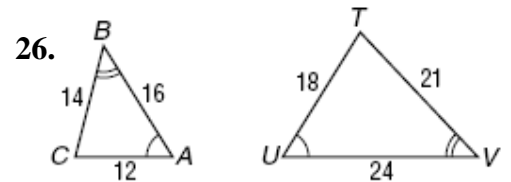
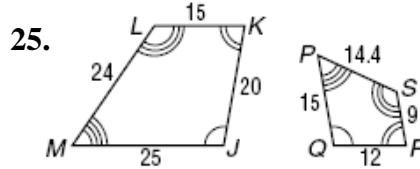
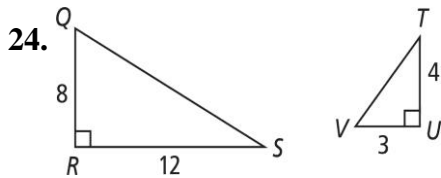
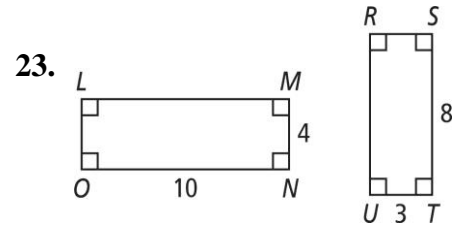
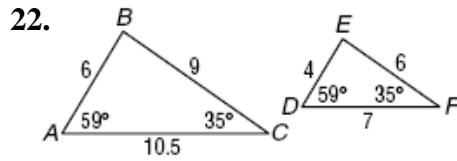
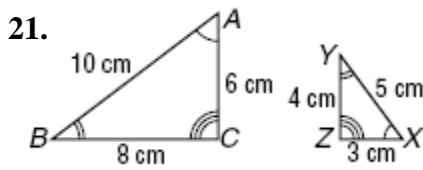
18. In a shipment of 400 parts, 14 are found to be defective. How many defective parts should be expected in a shipment of 1000?

19. A piece of cable 8.5 cm long weighs 52 grams. What will a 10-cm length of the same cable weigh?

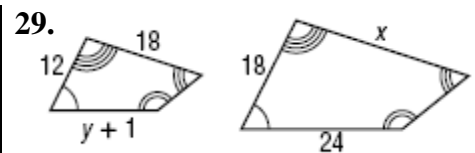
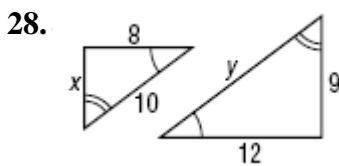
20. You purchase a scale model of a train. The model states that the scale is 1 inch: 5.4 feet. If the model is 10 inches long, how long is the actual train?

SIMILAR POLYGONS

Is each pair of polygons similar? Write and simplify the ratio of each pair of corresponding sides to check. Show your work.



The two polygons are similar. Find x and y .



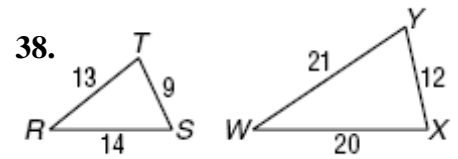
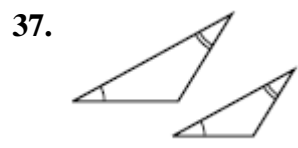
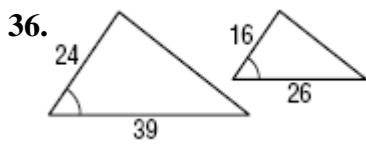
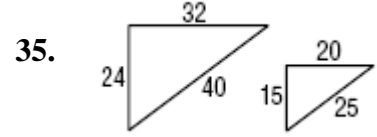
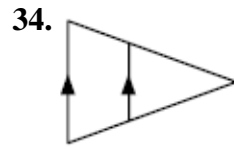
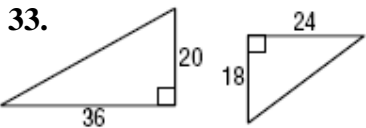
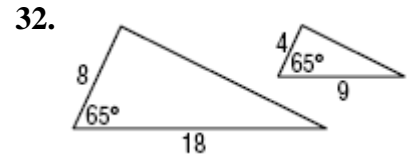
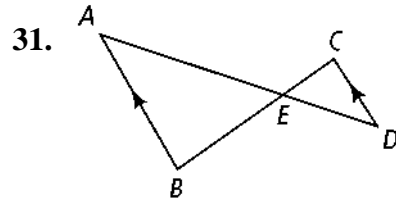
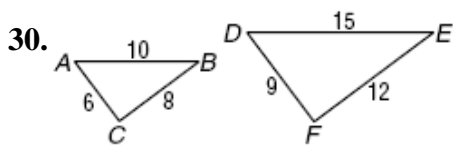
$x =$ _____
 $y =$ _____

$x =$ _____
 $y =$ _____

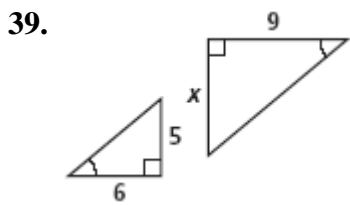
$x =$ _____
 $y =$ _____

PROVING TRIANGLES ARE SIMILAR

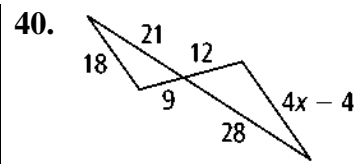
Determine whether each pair of triangles is similar. Name which postulate proves it. If they are not similar write "not similar."



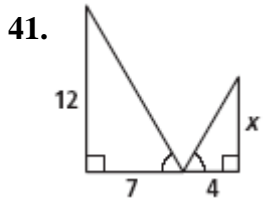
Each pair of triangles is similar. Write and solve a proportion to find the value of x.



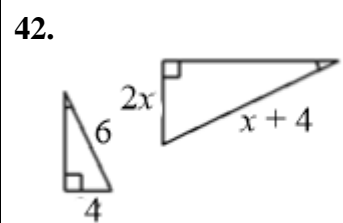
x = _____



x = _____



x = _____



x = _____