

7-1

Practice

Ratios and Proportions

Form G

Write the ratio of the first measurement to the second measurement.

- diameter of a salad plate: 8 in. diameter of a dinner plate: 1 ft
- weight of a cupcake: 2 oz weight of a cake: 2 lb 2 oz
- garden container width: 2 ft 6 in. garden container length: 8 ft
- width of a canoe: 28 in. length of a canoe: 12 ft 6 in.
- height of a book: 11 in. height of a bookshelf: 3 ft 3 in.
- The perimeter of a rectangle is 280 cm. The ratio of the width to the length is 3 : 4. What is the length of the rectangle?
- The ratio of country albums to jazz albums in a music collection is 2 : 3. If the music collection has 45 albums, how many are country albums?
- The lengths of the sides of a triangle are in the extended ratio 3 : 6 : 8. The triangle's perimeter is 510 cm. What are the lengths of the sides?

Algebra Solve each proportion.

9. $\frac{x}{4} = \frac{13}{52}$

10. $\frac{x}{2x+1} = \frac{16}{40}$

11. $\frac{9}{10} = \frac{9x}{70}$

12. $\frac{2}{7} = \frac{b+1}{56}$

13. $\frac{11}{y} = \frac{9}{27}$

14. $\frac{3}{34} = \frac{m}{51}$

Use the proportion $\frac{x}{z} = \frac{6}{5}$. Complete each statement. Justify your answer.

15. $\frac{x}{6} = \frac{\square}{\square}$

16. $\frac{x+z}{z} = \frac{\square}{\square}$

17. $\frac{z}{x} = \frac{\square}{\square}$

18. $5x = \square$

19. The measures of two consecutive angles in a parallelogram are in the ratio 4 : 11. What are the measures of the four angles of the parallelogram?

7-1

Practice (continued)

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Ratios and Proportions

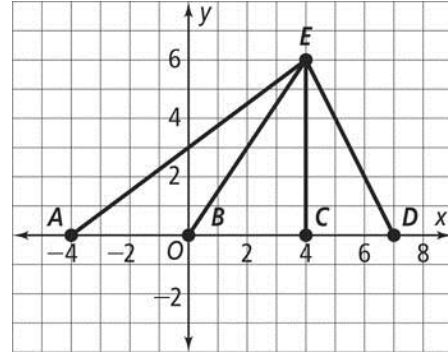
Coordinate Geometry Use the graph. Write each ratio in simplest form.

20. $\frac{AB}{BD}$

21. $\frac{AE}{EC}$

22. $\frac{EC}{BC}$

23. $\frac{\text{slope of } \overline{BE}}{\text{slope of } \overline{AE}}$



24. A band director needs to purchase new uniforms. The ratio of small to medium to large uniforms is 3 : 4 : 6.

- If there are 260 total uniforms to purchase, how many will be small?
- How many of these uniforms will be medium?
- How many of these uniforms will be large?

25. The measures of two complementary angles are in the ratio 2 : 3. What is the measure of the smaller angle?

26. The measures of two supplementary angles are in the ratio 4 : 11. What is the measure of the larger angle?

27. The means of a proportion are 4 and 17. List all possible pairs of positive integers that could be the extremes of the proportion.

28. The extremes of a proportion are 5 and 14. List all possible pairs of positive integers that could be the means of the proportion.

Algebra Solve each proportion.

29. $\frac{(x+1)}{(x+1)} = \frac{10}{14}$

30. $\frac{7}{50} = \frac{x}{30}$

31. **Writing** Explain why solving proportions is an important skill for solving geometry problems.

32. Draw a triangle that satisfies this condition: The ratio of the interior angles is 7 : 11 : 12.