Name_____   Geometry   7.1, 7.2, 7.3 and 7.5 Study Guide

1. A ratio is _____.

2. A proportion is _____.

3. 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?

4. 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?

5. 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?

6. The measures of the angles of a triangle are in the extended ratio 3: 2: 1. What is the measure of the largest angle?

7. The shadow of a 12-foot tree is 18 feet long at the same time the shadow of a boy is 6 feet long. How tall is the boy?

Solve each proportion.

8. $\dfrac{x}{4} = \dfrac{13}{52}$

9. $\dfrac{9}{10} = \dfrac{9x}{70}$

10. $\dfrac{2}{7} = \dfrac{b+1}{56}$

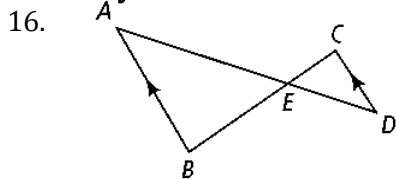11. $\dfrac{3}{34} = \dfrac{m}{51}$

12. $\dfrac{x}{2x+1} = \dfrac{16}{40}$
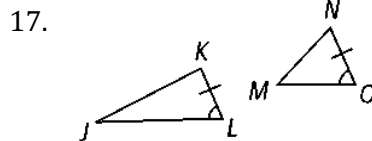
13. $\dfrac{x+1}{x+1} = \dfrac{10}{14}$

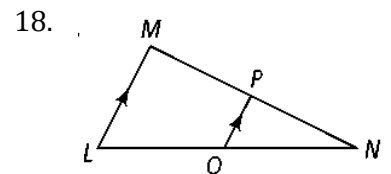14. $\dfrac{11}{y} = \dfrac{9}{27}$

15. $\dfrac{7}{50} = \dfrac{x}{30}$

Determine whether the triangles are similar. If so, write a similarity statement and Justify with the postulate or theorem you used.
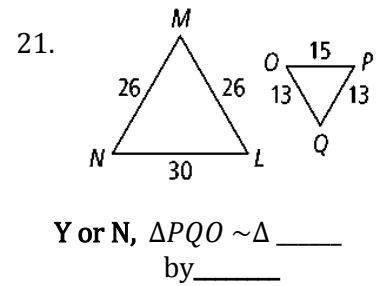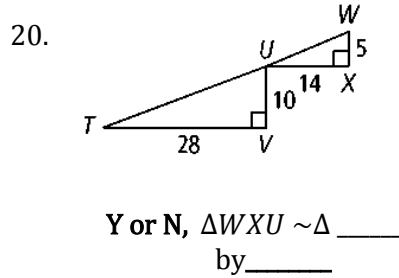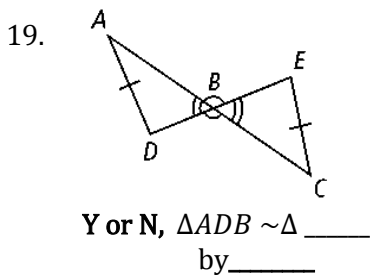
16.

Y or N, $\triangle ABE \sim \triangle$ _____

by_____

17.

Y or N, $\triangle JKL \sim \triangle$ _____

by_____

18.

Y or N, $\triangle NPO \sim \triangle$ _____

by_____

19.

Y or N, $\triangle ADB \sim \triangle$ _____
by_____

20.

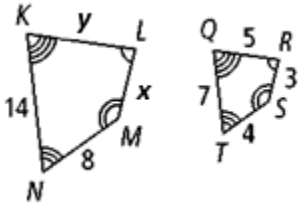Y or N, $\triangle WXU \sim \triangle$ _____
by_____

21.

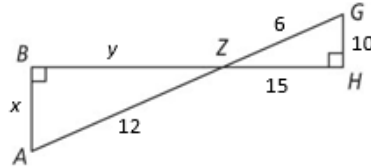Y or N, $\triangle PQO \sim \triangle$ _____
by_____

The polygons are similar. Find the value of each variable.

22. $x =$ _____ $y =$ _____

23. $x =$ _____ $y =$ _____

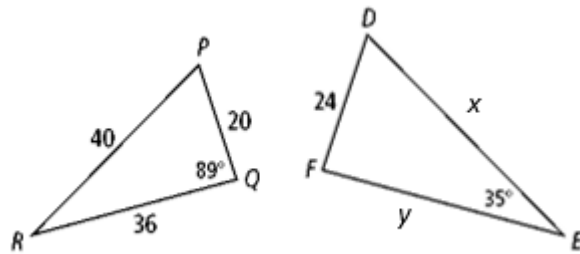$\triangle PRQ \sim \triangle DEF.$ Find each of the following.

24. the scale factor of $\triangle PRQ$ to $\triangle DEF$ _____

25. the scale factor of $\triangle DEF$ to $\triangle PRQ$ _____

26. $m\angle D =$ _____   27. $m\angle F =$ _____

28. $m\angle P =$ _____   29. $m\angle R =$ _____

30. $x =$ _____   31. $y =$ _____

Use the figure at the right to complete each proportion.
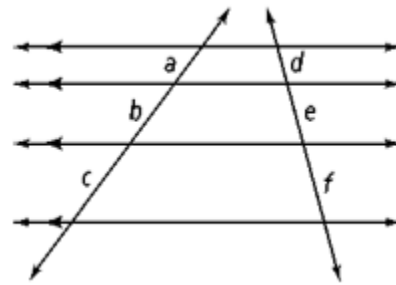
32. $\dfrac{a}{c} = \dfrac{}{f}$

33. $\dfrac{f}{e} = \dfrac{c}{}$

34. $\dfrac{}{c} = \dfrac{e}{f}$

35. $\dfrac{a}{} = \dfrac{b}{e}$

36. $\dfrac{a}{b} = \dfrac{}{e}$

37. $\dfrac{e}{} = \dfrac{f}{c}$

Solve for the variable.

38.

39.

40.

41.

42.

43.