

Ch. 7 Math-O

1. A scale model of a boat is 9 in long. The boat's actual length is 60 ft. Find the ratio of the length of the scale model to the length of the boat.

1:80

2. Solve. $\frac{11}{14} = \frac{x}{21}$

16.5

3. Solve. $\frac{5}{x-3} = \frac{10}{x}$

6

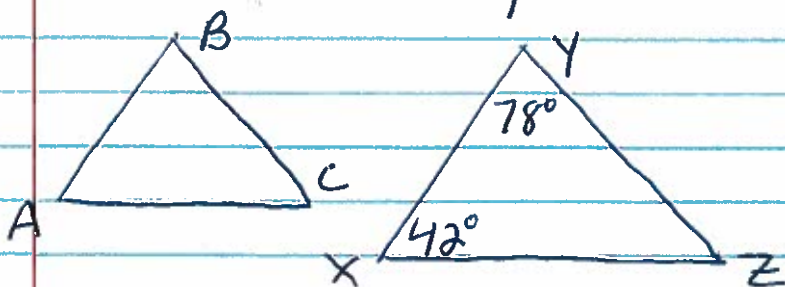
4. A map uses a scale 1 cm = 20 mi. A county is 90 mi wide. How wide is the county on the map?

4½ cm

5. If $\frac{x}{y} = \frac{7}{11}$, complete $\frac{x+y}{y} = \frac{?}{11}$

18

$\triangle ABC \sim \triangle XYZ$

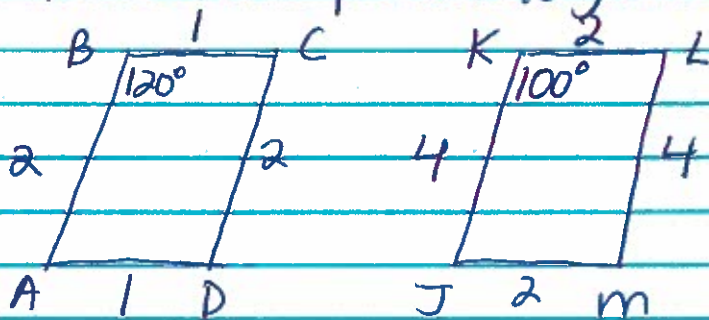


6. $m\angle B =$

7. $\frac{BC}{YZ} = \frac{AC}{XZ}$

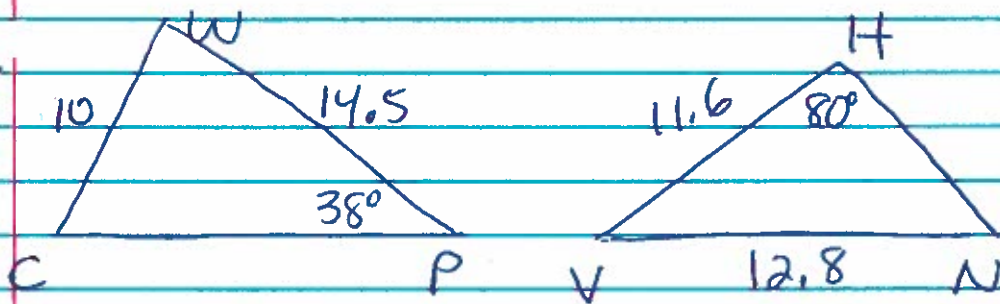
78, AC

8. Are the parallelograms similar?



$$\frac{1}{2} = \frac{2}{4} = \frac{1}{2} = \frac{2}{4}$$

No



$$\triangle WCP \sim \triangle HNV$$

9. Find $m\angle C$

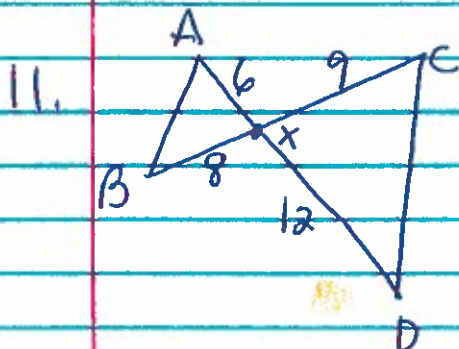
62°

10. Find CP

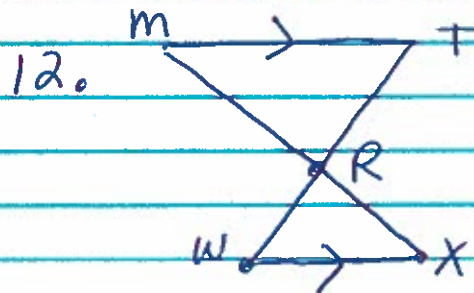
16

Are the Δ 's similar? If so, by AA \sim or SAS \sim ?

write a similarity statement.



$\triangle ABX \sim \triangle CDX$
by SAS \sim Thm



$\triangle MRT \sim \triangle XRW$
AA \sim

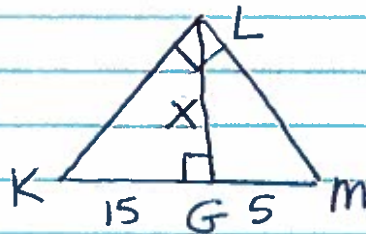
13. A crate is 1.5 ft high and casts a 2 ft shadow. At the same time, an apple tree casts a shadow 18 ft. How tall is the tree?

14. Find the geometric mean of 32 and 2,

15. Find the geometric mean of 6 and 20.

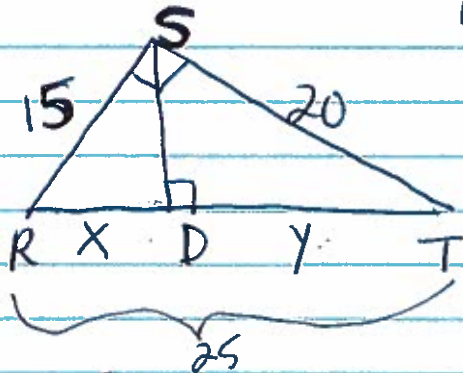
$$2\sqrt{30}$$

16. Solve for x .



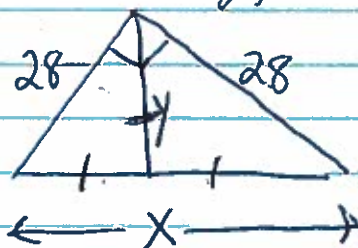
$$5\sqrt{3}$$

17. Solve for x and y .



$$x=9 \quad y=16$$

18.

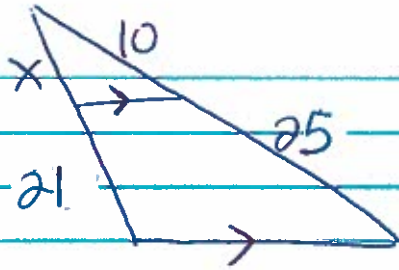


Find $x + y$.

$$x = 28\sqrt{2}$$

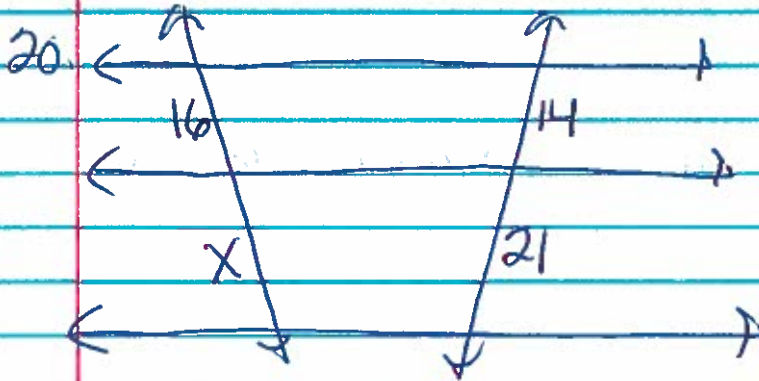
$$y = 14\sqrt{2}$$

19.



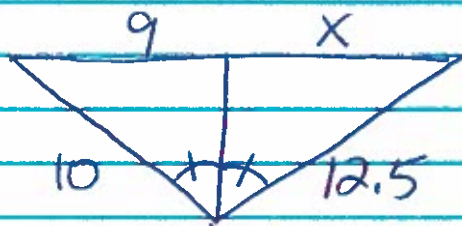
Find x .

8.4



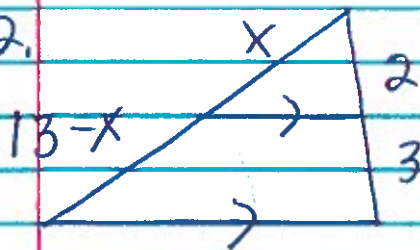
24

21.



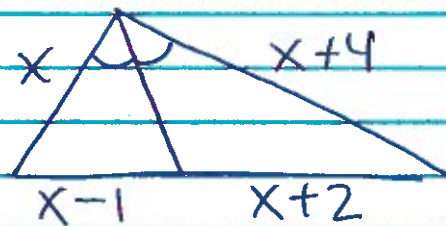
11.25

22.



5.2

23.



4

Chapter Test

Form A

Chapter 7

Solve each proportion for x .

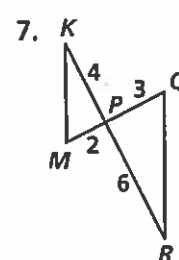
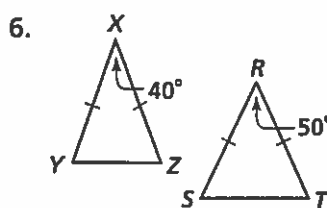
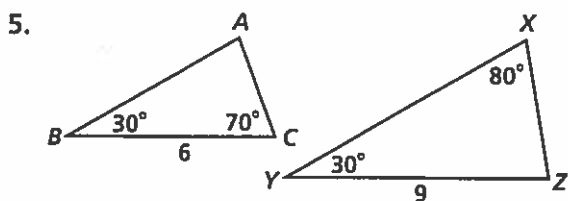
1. $\frac{10}{x} = \frac{5}{14}$

2. $\frac{x}{8} = \frac{3}{19}$

3. $\frac{1}{5} = \frac{9}{x}$

4. $\frac{x}{x+1} = \frac{2}{5}$

Are the triangles similar? If so, write the similarity statement, and name the postulate or theorem that you can use to prove they are similar. If not, write *not similar*.



8. A man 6 ft tall casts a shadow 4 ft long. At the same time, a building casts a shadow 20 ft long. How tall is the building?

9. Find the geometric mean of 3 and 27. If the answer is not a whole number, leave it in simplest radical form.

10. Find the geometric mean of 10 and 18. If the answer is not a whole number, leave it in simplest radical form.

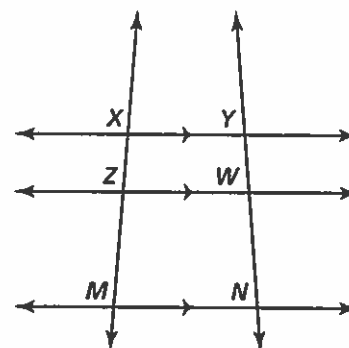
11. Which proportion is true for the figure at the right?

A. $\frac{XY}{ZW} = \frac{ZW}{MN}$

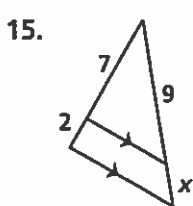
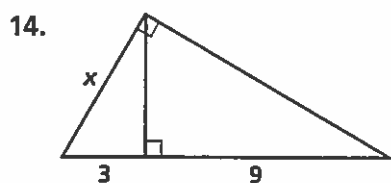
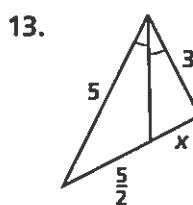
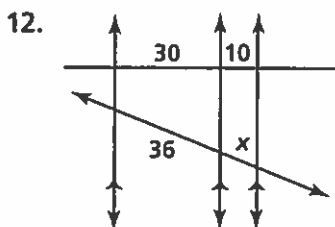
B. $\frac{ZM}{XZ} = \frac{WN}{YW}$

C. $\frac{XZ}{WN} = \frac{YW}{ZM}$

D. $\frac{XM}{MN} = \frac{YN}{MN}$



Find the value of x .

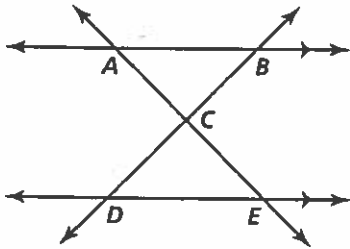


Chapter Test (continued)

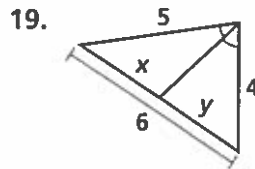
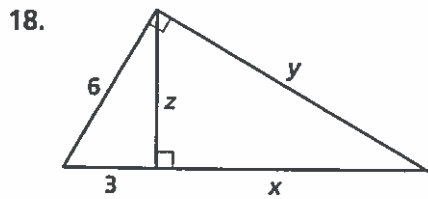
Form A

Chapter 7

16. Draw a rectangle $ABCD$. Then draw a pair of similar triangles whose sides are on or within $ABCD$.
17. In the diagram below, explain how you know that $\triangle ABC \sim \triangle EDC$.



Find the values of the variables.



20. $\triangle RST \sim \triangle XYZ$ and $RS = \frac{3}{2}XY$. Which of the following is true?
- A. The ratio of perimeters of $\triangle RST$ to $\triangle XYZ$ is $\frac{9}{4}$. B. $m\angle R = \frac{3}{2}m\angle X$
- C. The ratio of areas of $\triangle XYZ$ to $\triangle RST$ is $\frac{9}{4}$. D. none of the above
21. Find the length of the altitude to the hypotenuse of a right triangle whose sides have lengths 5, 12, and 13.

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