

7-1, 7-3
TO 7-5

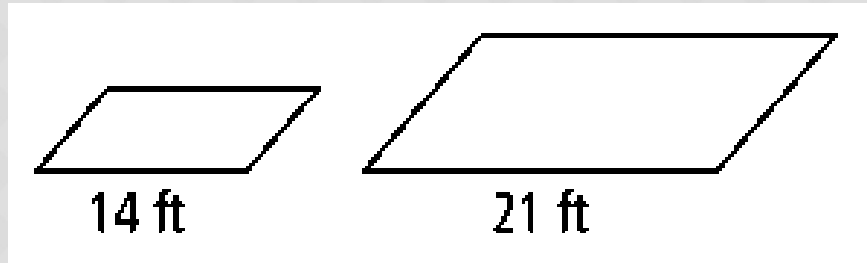
Review and
Extension

OBJECTIVE

- ❖ To apply the Proportional Perimeters and Areas Theorem
- ❖ To use proportions to plan scales

CLASS WORK

1. The parallelograms are similar. The area of smaller parallelogram = 72 ft^2 . Find the area of the other parallelogram to the nearest whole number.

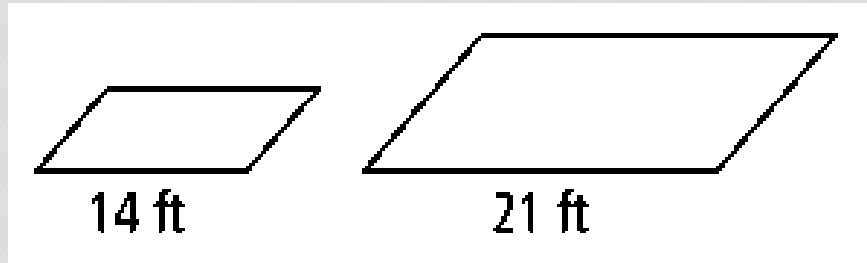


2. Find the scale factor and the ratio of perimeters for the following pair of similar figures.

two rectangles with areas 72 m^2 and 50 m^2

CLASS WORK

1. The parallelograms are similar. The area of smaller parallelogram = 72 ft^2 . Find the area of the other parallelogram to the nearest whole number.



$$SR: \frac{14}{21} = \frac{a}{3} = \frac{a}{b}$$

$$\frac{4}{9} = \frac{72}{A}$$

$$RA: \frac{a^2}{b^2} = \frac{a^2}{3^2} = \frac{4}{9}$$

$$4A = 648 \quad A = 162 \text{ ft}^2$$

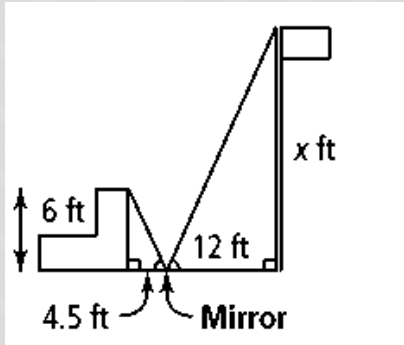
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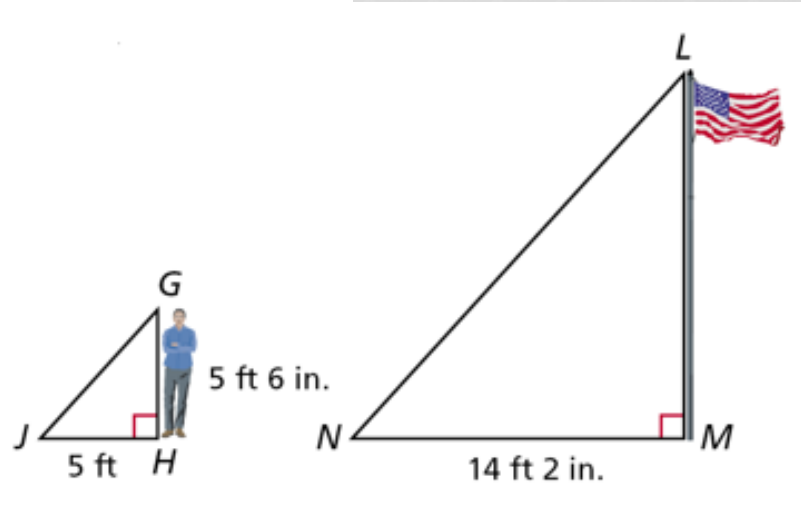
$$RA: \frac{72}{50} = \frac{36}{25} = \frac{a^2}{b^2} \quad \frac{a}{b} = \frac{\sqrt{36}}{\sqrt{25}} = \frac{6}{5} = SR = RP$$

CLASS WORK

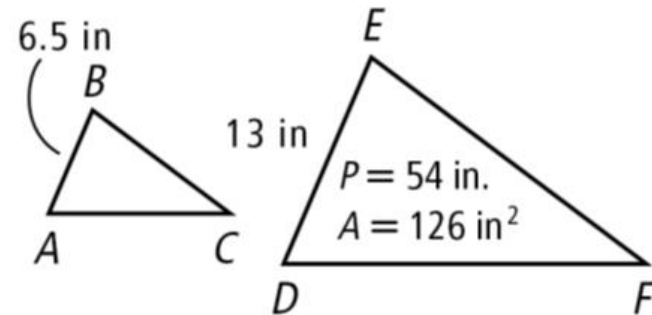
3. Find the value of x .



4. A student who is 5 ft. 6 in. tall measured shadows to find the height of a flagpole. What is the height?



5. Given $\triangle ABC \sim \triangle DEF$, find the perimeter and area of $\triangle ABC$.

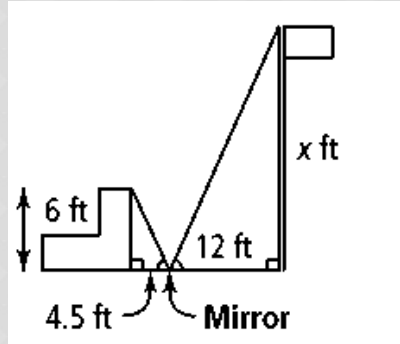


CLASS WORK

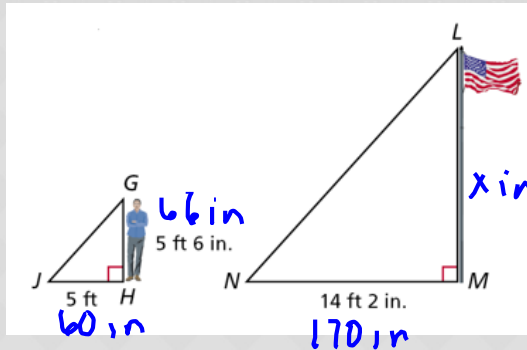
3. Find the value of x.

$$\frac{6}{x} = \frac{4.5}{12} \quad 4.5x = 72$$

$$x = 16 \text{ ft}$$



4. A student who is 5 ft. 6 in. tall measured shadows to find the height of a flagpole. What is the height?



$$\frac{66}{x} = \frac{60}{170}$$

$$60x = 11220$$

$$x = 187 \text{ in}$$

$$x = 15 \text{ ft } 7 \text{ in}$$

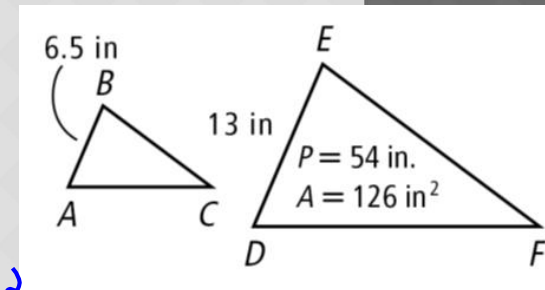
5. Given $\triangle ABC \sim \triangle DEF$, find the perimeter and area of $\triangle ABC$.

$$SR: \frac{6.5}{13} = \frac{6.5}{130} = \frac{1}{20}$$

$$RP: \frac{1}{20} = \frac{P}{54} \quad 2P = 54 \quad P = 27 \text{ in}$$

$$RA: \frac{1^2}{2^2} = \frac{1}{4} \quad \frac{1}{4} = \frac{A}{126} \quad 4A = 126$$

$$A = 31.5 \text{ in}^2$$



CLASS WORK

16. You want to enlarge a 4 in.-by-6 in. photo. The paper you will print on is 8.5 in.-by-14 in. What is the largest size the photo can be?

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largest photo:

8.5 in by 12.75 in

use all width

$$\frac{4}{6} = \frac{8.5}{x} \quad 4x = 51$$
$$x = 12.75 \text{ in}$$

use all length

$$\frac{4}{6} = \frac{y}{14} \quad 6y = 56$$
$$y = \frac{28}{3} = 9\frac{1}{3}$$

too wide!