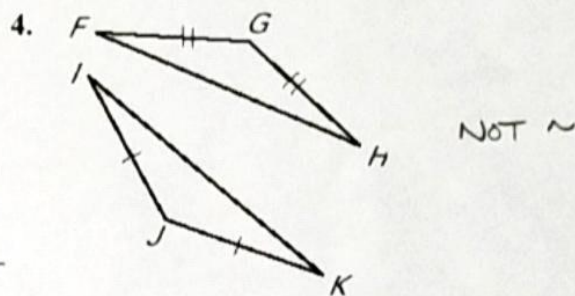
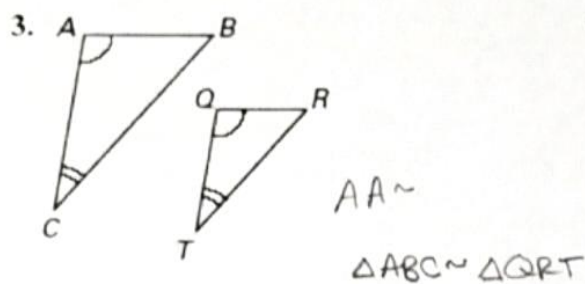
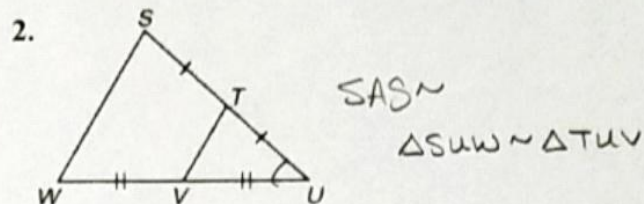
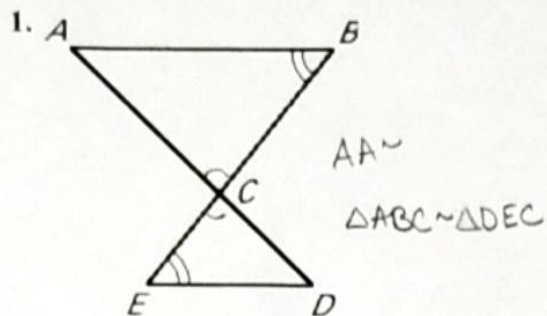


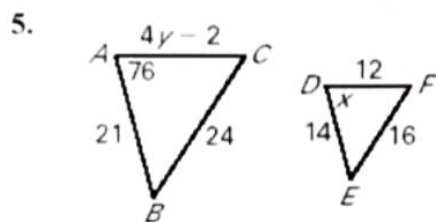
LESSON 6.3-6.4

Practice C

Are the triangles similar? If so, state the similarity and the postulate or theorem that justifies your answer.



$\triangle ABC \sim \triangle DEF$ . Find the values of the variables.



$$x = 76^\circ$$

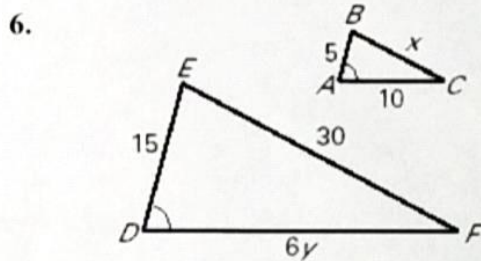
$$\frac{12}{4y-2} = \frac{14}{21}$$

$$\frac{12}{4y-2} = \frac{2}{3}$$

$$36 = 8y - 4$$

$$40 = 8y$$

$$5 = y$$



$$\frac{15}{5} = \frac{30}{x}$$

$$\frac{3}{1} = \frac{30}{x}$$

$$3x = 30$$

$$x = 10$$

$$\frac{3}{1} = \frac{6y}{10}$$

$$30 = 6y$$

$$5 = y$$

Use the diagram shown to complete the statement.

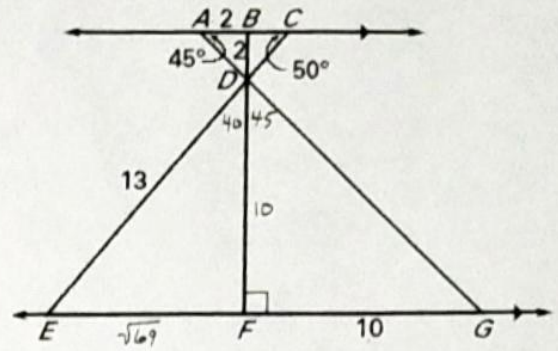
7.  $m\angle DGE = 45^\circ$

8.  $m\angle EDG = 85^\circ$

9.  $FD = 10$

10.  $GD = 10\sqrt{2}$      $10^2 + 10^2 = GD^2$      $EF^2 = 13^2 - 10^2$

11.  $EG = 10 + \sqrt{69}$      $\sqrt{200} = GD$      $EF = \sqrt{69}$



12. Name three pairs of triangles that are similar in the figure.

$\triangle ABD \sim \triangle GFD$

$\triangle CBD \sim \triangle EFD$

$\triangle ACD \sim \triangle GED$

13. **Indirect Measurement** A painter is preparing an estimate to paint a building. To approximate the building's height, he stands so that the tip of his shadow coincides with that of the building. The painter uses the measurements shown in the figure.

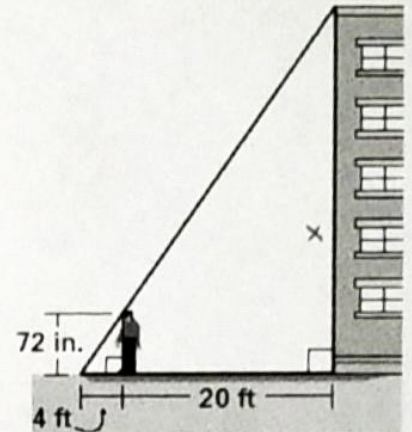
a. What postulate or theorem can you use to show that the triangles are similar?

$AA \sim$

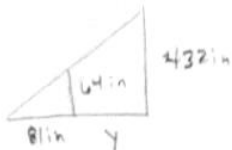
b. Approximate the height of the building.

$\frac{x}{72} = \frac{24}{4}$

$x = 432 \text{ in} = 36 \text{ ft}$



c. Later in the day, the painter's partner comes to help with the job. If he is 64 in. tall, casts an 81 in. shadow and stands in the same way as the painter (so the tip of his shadow lines up with that of the building), how far away is he standing from the building?



$\frac{64}{432} = \frac{81}{x}$

$x = 546.75$

$y = 546.75 - 81$

$y = 465.75 \text{ in} = 38.8125 \text{ ft}$