

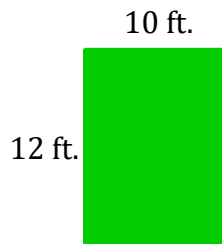
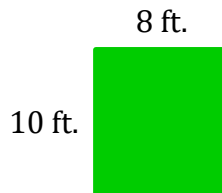
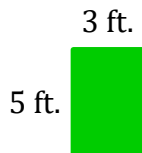
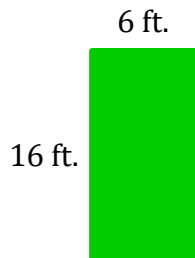
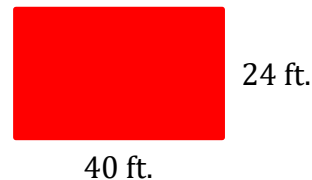
6A.9 Learning Opportunity



Name: _____

Similar figures

1) The red rectangle is similar to which of the green rectangles below?



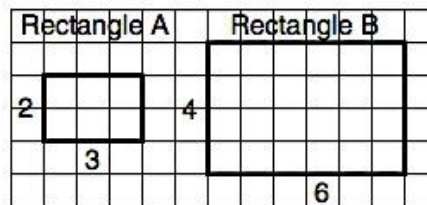
Similar Figures and Areas

The areas of two similar figures are related in a special way. Suppose that rectangle A is 2 units by 3 units and rectangle B is 4 units by 6 units.

The area of rectangle A is $2 \times 3 = 6$ units².

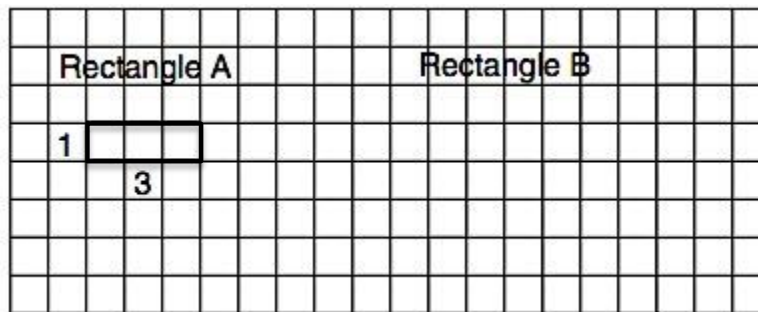
The area of rectangle B is $4 \times 6 = 24$ units².

The lengths of the sides of rectangle B are twice those of rectangle A and the area of rectangle B is four times that of rectangle A.

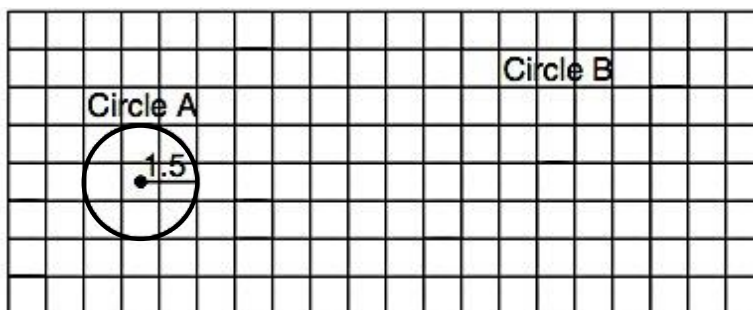


Sketch figure B similar to figure A and satisfying the given condition.

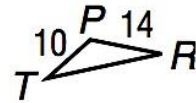
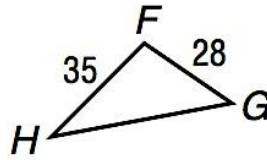
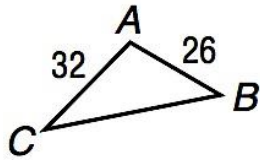
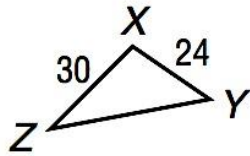
2) Rectangle B has sixteen times the area of rectangle A.



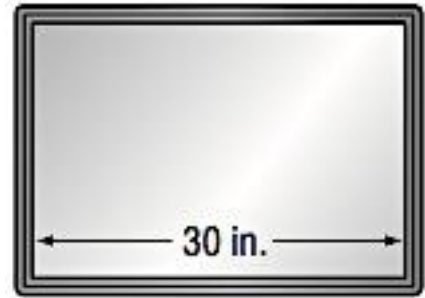
3) Circle B has an area four times that of circle A.



4) Which triangle is similar to triangle XYZ ?



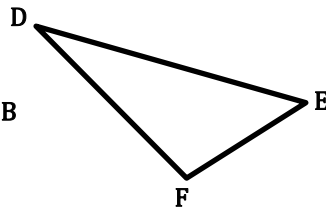
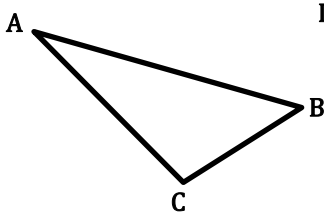
5) Ava wants to enlarge a photograph that is 6 inches wide and 4 inches tall so that it completely fills the frame shown.



How tall must the frame be for the picture to fit?

Suppose Ava cuts 1 inch from the width of the photo, so that it is 5 inches wide, before she makes the enlargement. How tall will the frame need to be for the picture to fit?

6) $\triangle ABC \sim \triangle DEF$. Of all the relationships shown below, circle only the ones that **must** be true.



$$\angle B = \angle E$$

$$\frac{AC}{CB} = \frac{DF}{FE}$$

$$BC = EF$$

$$\angle A = \angle E$$

$$\frac{AB}{DE} = \frac{AC}{DF}$$

$$FD = DF$$

7) A map below shows the towns of Dover, Butler, and Lodi. If the actual distance between Dover and Butler is 24 miles, what is the actual distance from Dover to Lodi? How far apart are Lodi and Butler on the map? What is the actual distance between Lodi and Butler?

