Name: Key **Date:** _____

Stretching and Shrinking Review sheet

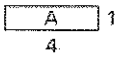
1. For Parts (a)-(c), determine whether the rule will create a similar image. If it is similar provide the scale factor and how its location is changed.

   a. $(3x, 6y)$ not Similar; scale for x is 3 and scale for y is 6

   b. $(x+2, y+1)$ Similar; scale for x + y is 1; x will move over 2 and y will move up 1

   c. $(2x, 2y+5)$ Similar; scale for x + y is 2; x will not move and y will move up 5

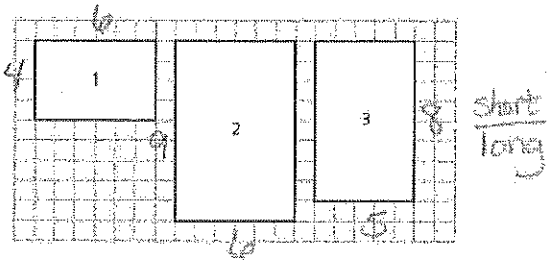
2. Complete the table based upon rectangle A shown below.



Rectangle	Scale Factor	Short Side	Long Side	Perimeter	Area
A	1	1	4	10	4
B	3	3	12	30	36
C	10	10	40	100	400
D	$\frac{1}{2}$	$\frac{1}{2}$	2	5	1

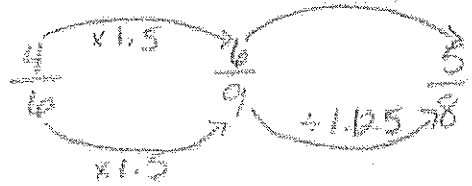
Sides
P A
$3^2 = 9$
$10^2 = 100$
$(\frac{1}{2})^2 = \frac{1}{4}$

3. Which rectangles below are similar? How do you know?



short/long

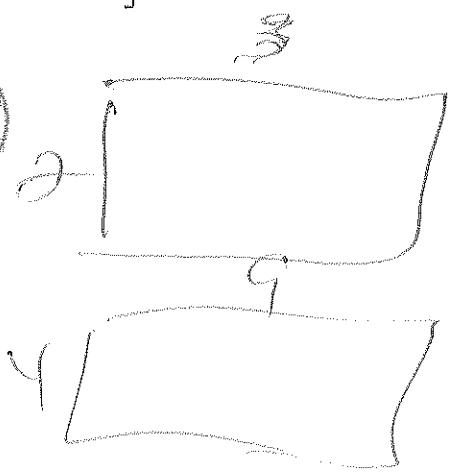
Rect. 1 Rect. 2 Rect. 3



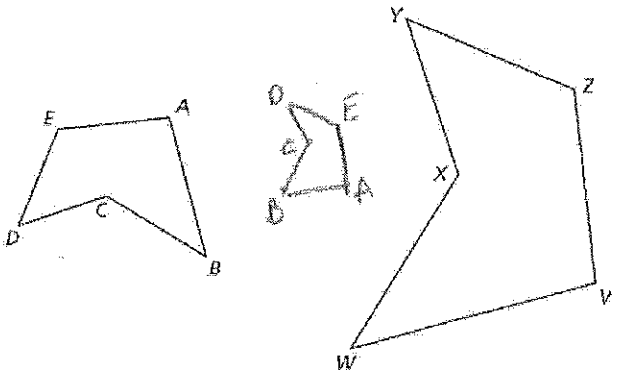
1 + 2 are similar

4. The ratio of two adjacent sidelengths of a rectangle is $\frac{2}{3}$. Which of these could be the ratio of two adjacent sidelengths of a similar rectangle?

$\frac{4}{9}$ $\frac{4}{3}$ $\frac{2}{6}$ $\frac{4}{5}$ $\frac{6}{9}$



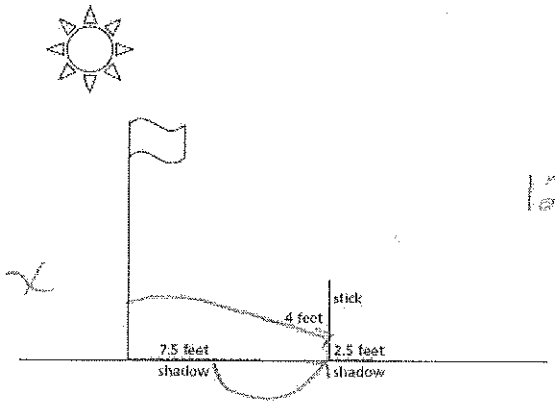
5. Figure *VWXYZ* is an enlargement of figure *ABCDE*. Name all the pairs of corresponding sides and all the pairs of corresponding angles of the two figures.



$\overline{AE}, \overline{ZV}$ $\overline{AB}, \overline{VW}$ $\overline{BC}, \overline{WX}$ $\overline{CD}, \overline{XY}$ $\overline{DE}, \overline{YZ}$

$\angle E, \angle Z$ $\angle A, \angle V$ $\angle B, \angle W$ $\angle C, \angle X$ $\angle D, \angle Y$

6. Use the diagram below to determine the height of the flagpole.



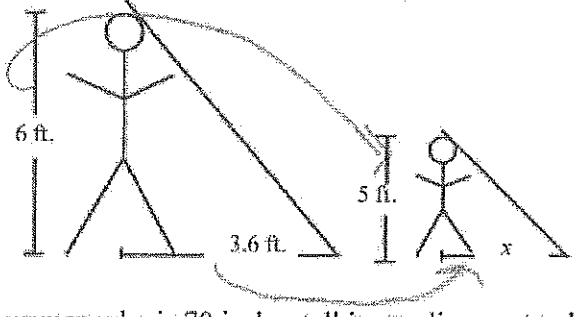
$\frac{x}{7.5} = \frac{4}{2.5}$ (×3) $12 = \frac{x}{7.5} = \frac{4}{2.5}$ (×3)

12 ft.

49 ft. 7. A building 50 ft high casts a 75-ft shadow. Sarah casts a 6-ft shadow. The triangle formed by the building and its shadow is similar to the triangle formed by Sarah and her shadow. How tall is Sarah? **Draw a picture and then find the answer using your picture.**

$\frac{x}{6} = \frac{50}{75}$ $x = 4$ ft

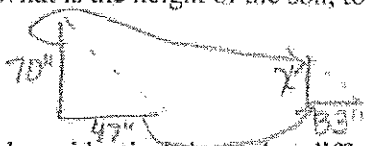
3 ft 8. A 6-ft adult has a shadow 3.6 ft long. How long is the shadow of a 5-ft child standing next to the adult?



$\frac{x}{5} = \frac{3.6}{6}$ (+1.2) $\frac{x}{5} = \frac{3.6}{6}$ (+1.2)

$x = 3$ ft

49" 9. A woman who is 70 inches tall is standing next to her son. She casts a shadow that is 47 inches and her son cast a shadow that is 33 inches. What is the height of the son, to the nearest inch? **Draw a picture and then solve the problem.**



$\frac{x}{33} = \frac{70}{47}$ (+1.43) $\frac{x}{33} = \frac{70}{47}$ (+1.43)

$x = 49$"

4 ft 10. Nora has two picture frames that have identical shapes but different sizes. The larger frame is 3 ft wide by 6 ft high. What is the measurement of the height of the other frame if it is 2 ft wide?

$\frac{x}{2} = \frac{6}{3}$ (÷1.5) $\frac{x}{2} = \frac{6}{3}$ (÷1.5)

$x = 4$ ft