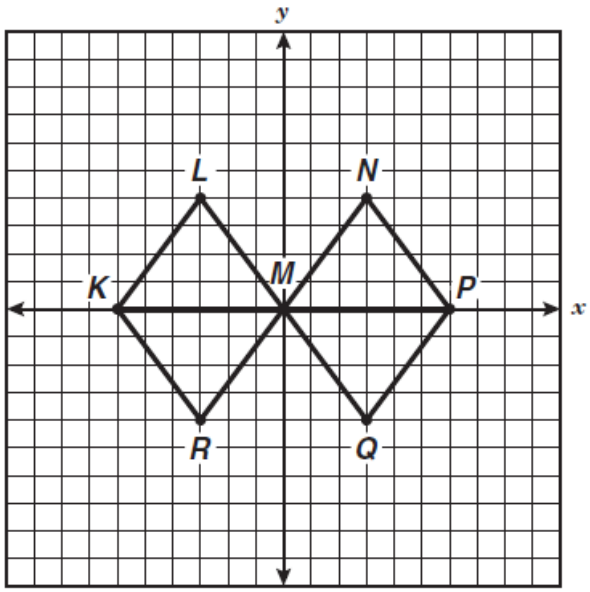
Reflections/Translations/ Rotations on TAKS

Name_____ Class _____ 10 pts each

1.

Look at the triangles graphed on the grid below.



Which of the following correctly describes two triangles, one a single reflection of the other across the x-axis?

A $\Delta KLM \cong \Delta PNM$

B $\Delta KRM \cong \Delta PQM$

C $\Delta KRM \cong \Delta PNM$

D $\Delta KLM \cong \Delta KRM$

2.

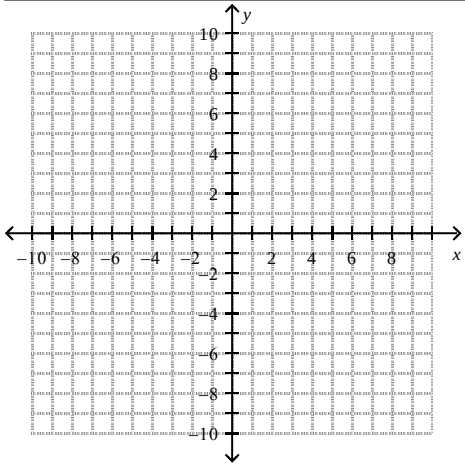
The quadrilateral with vertices $R\,(1, 1)$, $S\,(1, 4)$, $T\,(5, 8)$, and $V\,(7, -2)$ is translated 2 units to the right and 3 units down. Which of the following are the coordinates of two of the vertices of the translated quadrilateral?

A $(3, 4), (7, 5)$

B $(-1, -2), (3, 5)$

C $(7, 11), (3, 4)$

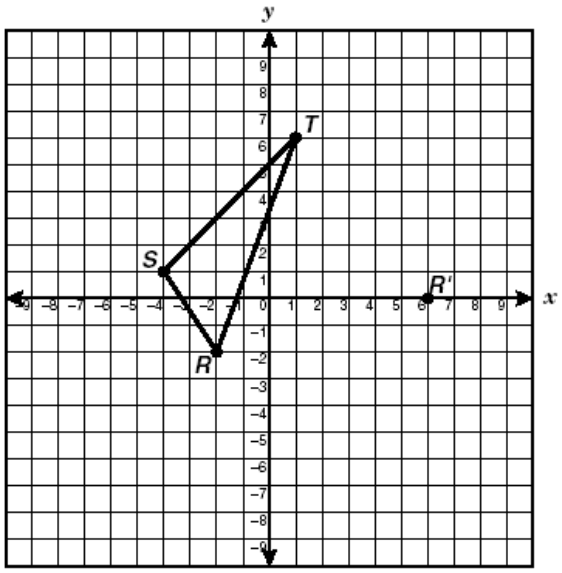
D $(3, -2), (7, 5)$



Graph the quadrilateral and the translated quadrilateral.

3.

ΔRST is translated so that R is mapped to R'.



Which set of ordered pairs best identifies points S' and T'?

F $S'(8, 3), T'(3, 8)$

G $S'(4, 3), T'(9, 8)$

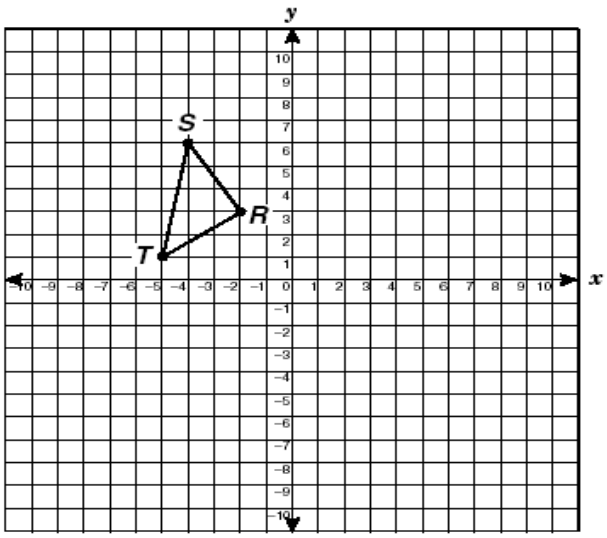
H $S'(10, -1), T'(12, -9)$

J $S'(10, 3), T'(5, 4)$

- R moved up how many units?____
- Y moved over how many units?____
- So, move S the same way.
- New coordinates?
- (,)
- That does it!!!

4.

47 ΔRST is shown on the coordinate plane below.



Find the coordinates of the vertices of the image of ΔRST reflected across the y-axis.

A $(-2, -3), (-4, -6), (-5, -1)$

B $(2, 3), (4, 6), (5, 1)$

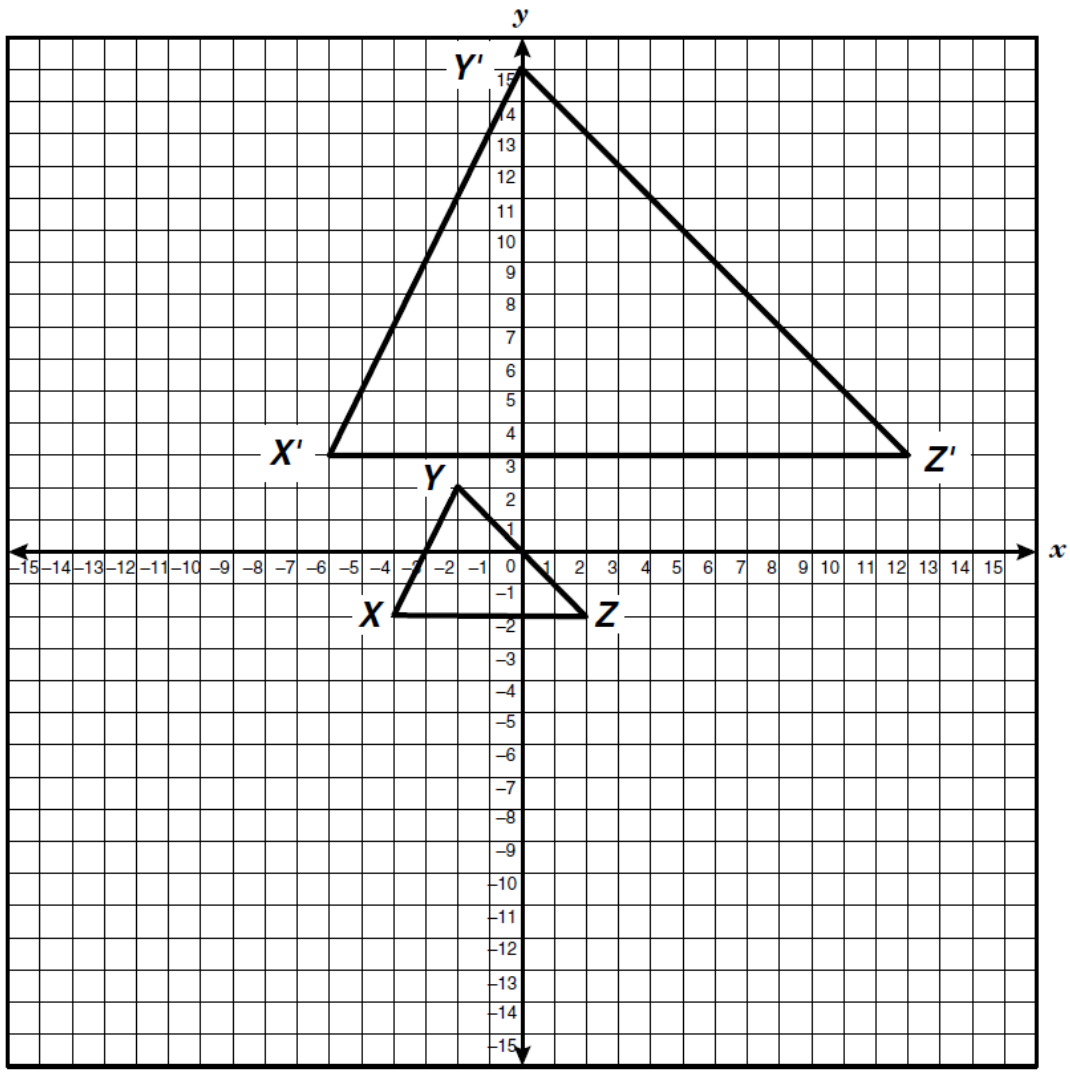
C $(0, 3), (-2, 6), (-3, 1)$

D $(2, -3), (4, -6), (5, -1)$

Over the y. Flip it, don't just slide it.
T is at -5 on the x, so it will be at positive ____ when flipped.
Only 2 answers have that x value, __and ____
Now, think, it's all going to be in Quadrant ____ where both x and y are positive.
So?_____

5.

The graph below shows ΔXYZ and similar $\Delta X'Y'Z'$.



Which statement is true when transforming ΔXYZ to $\Delta X'Y'Z'$?

F All the corresponding angles will increase by a multiple of 3.

G All the corresponding angles will increase by a scale factor of $\frac{1}{3}$.

H All the corresponding sides are proportional, with a scale factor of 3.

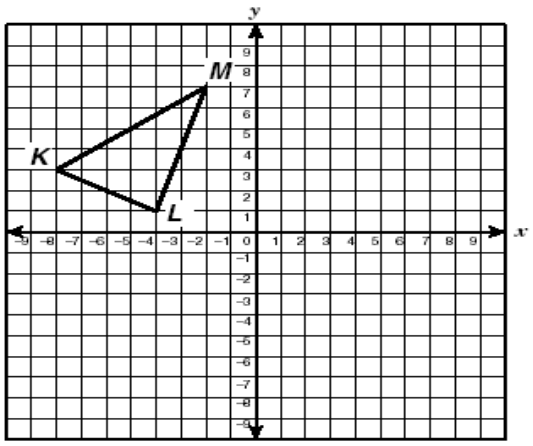
J All the corresponding sides are proportional, with a scale factor of $\frac{1}{3}$.

Little triangle to big triangle.
So do you want to multiply by a fraction or a number bigger than 1?.____

Do angles of similar triangles change?___

6.

ΔKLM has coordinates $K(-8, 3)$, $L(-4, 1)$, and $M(-2, 7)$. What will be the new coordinates of point M if the triangle is translated 4 units to the right and 3 units down?



F $(0, -2)$

G $(2, 4)$

H $(-4, 0)$

J $(-6, 4)$

This is a **slide**, not a flip!!!

Take point m (,)

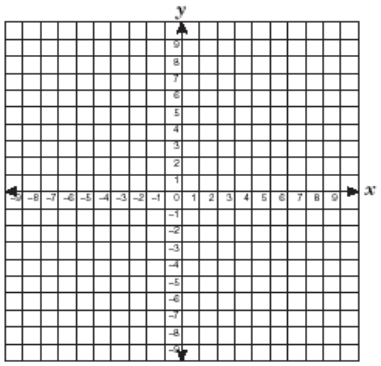
now move four to the right, to the ordered pair, add 4 to the X value _____=____. That gives you the answer.

Let's finish it:
Now, move down 3, and subtract three from the y-value; ____= ____.

This confirms the answer.

7.

ΔDFG has vertices $D(2, 4)$, $F(4, 8)$, and $G(6, 4)$.



ΔDFG is dilated by a scale factor of $\frac{1}{4}$ and has the origin as the center of dilation. What are the coordinates of F'?

F $(1, 2)$

G $(\frac{1}{2}, 1)$

H $(16, 32)$

J $(\frac{3}{2}, 1)$

Dilate means make larger or smaller in proportion.

To dilate by a "scale" factor, just multiply.

Take point F(4,8)

Multiply ¼ times 4 = ____

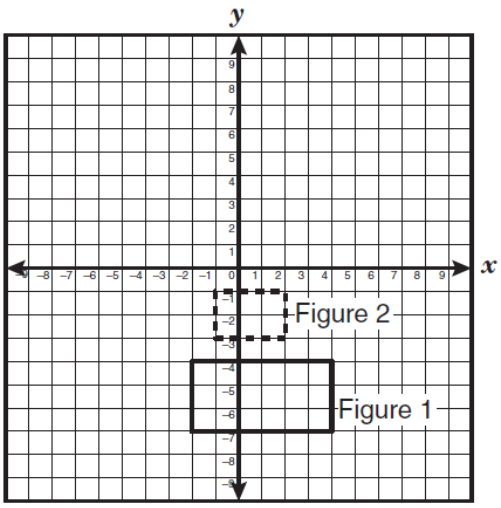
Multiply ¼ times 8 =___

New point? (,)

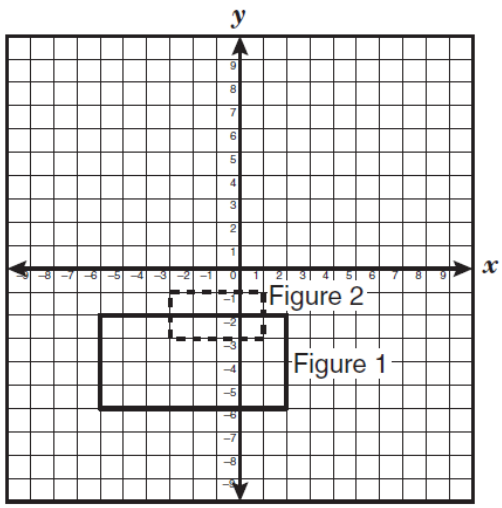
8.

Identify the drawing that shows Figure 1 under dilation to produce Figure 2, using center of dilation (0, 0) and a scale factor of $\frac{1}{2}$.

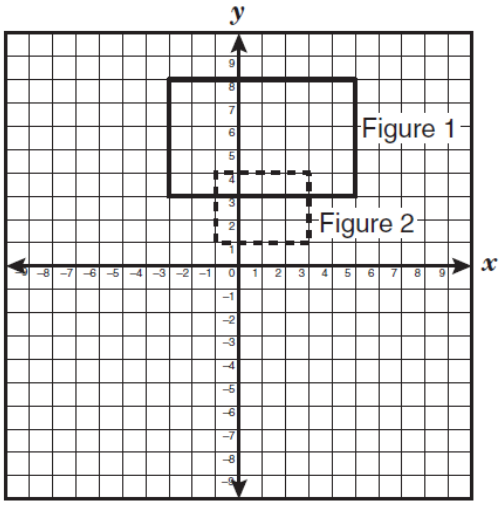
F



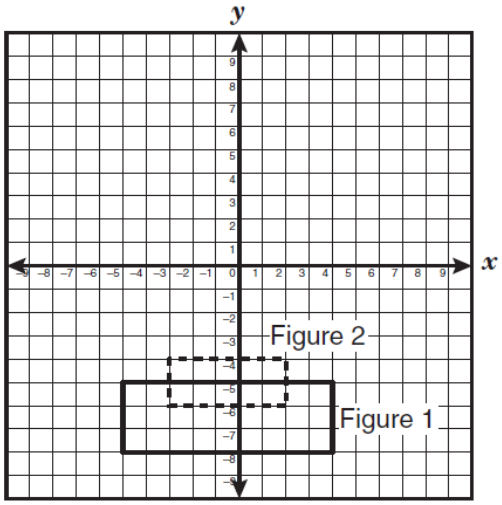
H



G



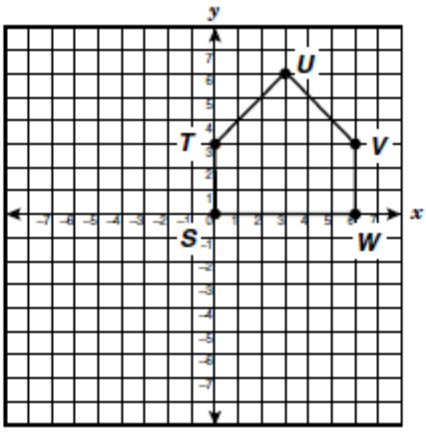
J



(Center of dilation of (0, 0) is there to sound technical and also tells us the point where these polygons are started. Basically, don't let it confuse you!)

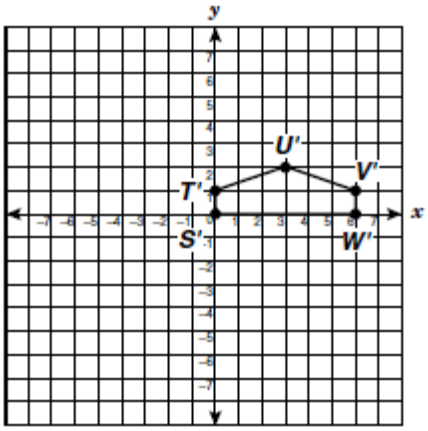
9.

The pentagon in the graph below is to be dilated by a scale factor of $\frac{1}{3}$.

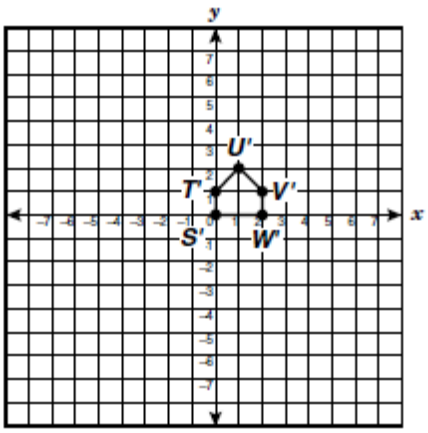


Which graph shows this transformation?

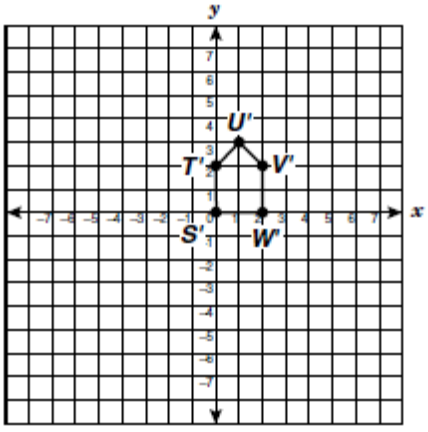
F



H



G



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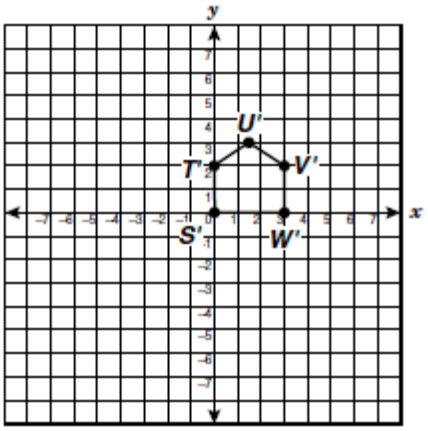
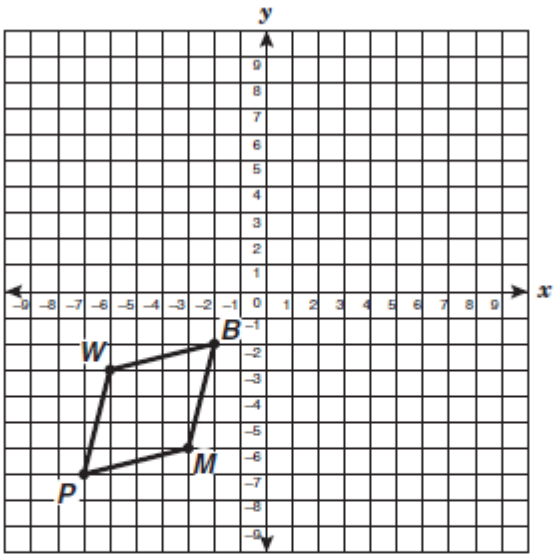


The house is in a grid of 6 by 6 units. ***Draw the box grid of 6 by 6 around it to get the idea.***

So it would have to shrink to a grid that is ___ by ____ that eliminates all but _____

10.

Parallelogram $WBMP$ is shown on the grid below.



If $WBMP$ is reflected across the line $y = -x$ and then translated 4 units down to become parallelogram $W'B'M'P'$, what will be the coordinates of M'?

F $(-6, -7)$

G $(6, -1)$

H $(6, 7)$

J $(6, 3)$

Graph $y = -x$
(Draw the line $y = -x$)

Now flip Point B over it. AND Graph new parallelogram

Where would that put M?_____  Watch out, if you are in a hurry you will choose the wrong answer, you are not yet finished!

Now move the new parallelogram down 4 units. Where is M ?