Bell Ringer

Wednesday 1/29

Are the triangles congruent? If so, state how you know. If not, state what information is missing.

1. SSA — HL
2. need another side or ∠
3. AL
4. ASA
5. SAS
6. NOT Cong. Another side or angle

Jan 2-4:15 PM

12.6 online hw due today

12.7 online hw due tomorrow

Ch 12 Test Friday

Ch 11 Test Retakes due Friday

Jan 5-12:23 PM

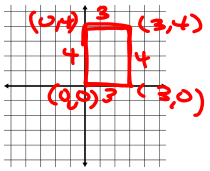
Essential Question

How can you use a coordinate plane to write a proof?

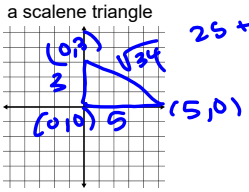
Essential Question

Place each figure in a coordinate plane in a way that is convenient for finding side lengths. Assign coordinates to each vertex.

a rectangle



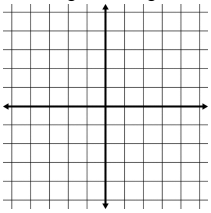
a scalene triangle



$25+9=\sqrt{34}$

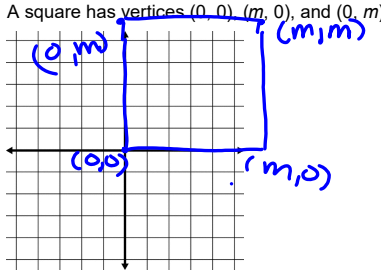
Example 1

Show another way to place the rectangle that is convenient for finding side lengths. Assign new coordinates.



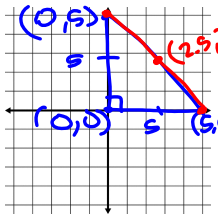
Monitoring Progress 1

A square has vertices (0, 0), (*m*, 0), and (0, *m*). Find the fourth vertex.



Monitoring Progress 1

Place an isosceles right triangle in a coordinate plane. Then find the length of the hypotenuse and the coordinates of its midpoint *M*.



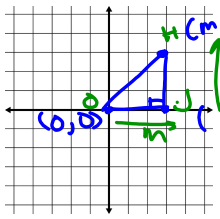
$5+25=50=5\sqrt{2}$
$=7.07$

$\left(\frac{x_1+x_2}{2}, \frac{y_1+y_2}{2}\right)$

$\left(\frac{5+0}{2}, \frac{0+5}{2}\right)=(2.5,2.5)$

Example 3

Graph the points $O(0, 0)$, $H(m, n)$, and $J(m, 0)$. Is $\triangle OHJ$ a right triangle? Find the side lengths and the coordinates of the midpoint of each side.



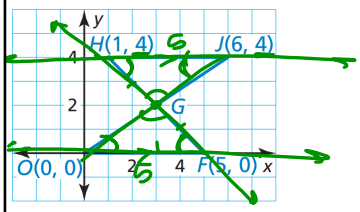
$\overline{OJ}=\sqrt{(0-m)^2+(0-0)^2}$
$=\sqrt{m^2}=m$

$\overline{JH}=\sqrt{(m-m)^2+(0-n)^2}$
$=\sqrt{n^2}=n$

$\overline{HO}=\sqrt{(m-0)^2+(n-0)^2}$
$\rightarrow=\sqrt{m^2+n^2}$

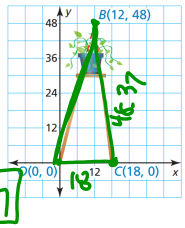
Monitoring Progress 4

Given G is the midpoint of $\overline{HF}$.
Prove $\triangle GHJ \cong \triangle GFO$



Jan 5-12:56 PM

You buy a tall, three-legged plant stand. When you place a plant on the stand, the stand appears to be unstable under the weight of the plant. The diagram at the right shows a coordinate plane superimposed on one pair of the plant stand's legs. The legs are extended to form $\triangle OBC$. Prove that $\triangle OBC$ is a scalene triangle. Explain why the plant stand may be unstable.

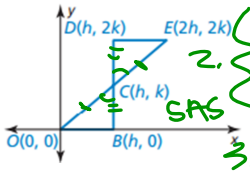


$\overline{BC}=\sqrt{(12-18)^2+(48-0)^2}$
$=\sqrt{2340}=48.37$

$\overline{OB}=\sqrt{(12-0)^2+(48-0)^2}=\sqrt{2448}=$
49.48

Jan 5-12:44 PM

Given: Coordinates of vertices of $\triangle DEC$ and $\triangle BOC$
Prove: $\triangle DEC \cong \triangle BOC$



2. $\overline{EC}=\sqrt{(2h-h)^2+(2k-k)^2}$
$=\sqrt{h^2+k^2}$

$\overline{CO}=\sqrt{h^2+k^2}$

SAS

3. $\overline{BC}=\sqrt{(h-h)^2+(k-0)^2}$
$=k$

$\overline{DC}=\sqrt{(h-h)^2+(2k-k)^2}$
$=k$

Jan 5-12:49 PM

due Friday

12.8 online hw
Pg 643-644 #s 1, 2, 3-19 odd, 26, 28, 29

Jan 5-12:39 PM

Jan 5-12:47 PM