

Lesson 5-4

Example 1: Using Coordinates to Classify Polygons

Graph the ^{many sides} polygons with the given vertices. Give the most specific name for each polygon (classify by ANGLES AND SIDES!).

I Do

A(-1, 2), B(-1, -2), C(3, -2)

acute

right

obtuse

~~equilateral~~

isosceles

scalene

right isosceles

$$4^2 + 4^2 = c^2$$

$$16 + 16 = c^2$$

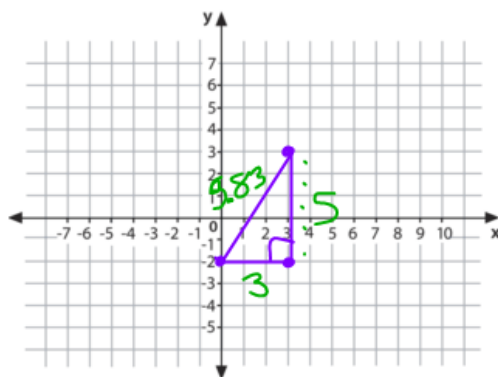
$$\sqrt{32} = \sqrt{c^2}$$

$$5.65 = c$$

We Do

A(0, -2), B(3, 3), C(3, -2)

isosceles?
scalene?



right scalene

$$3^2 + 5^2 = c^2$$

$$9 + 25 = c^2$$

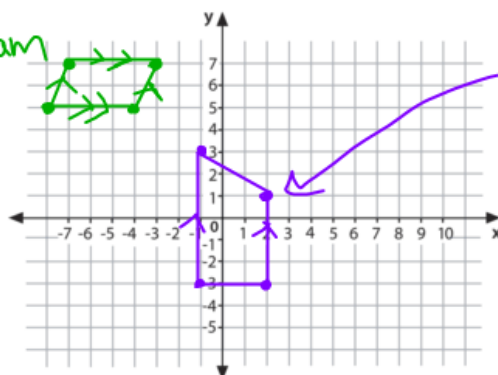
$$\sqrt{34} = c$$

$$5.83 = c$$

You Do

A(-1, 3), B(2, 1), C(2, -3), D(-1, -3)

Parallelogram
2 sets of
// sides



trapezoid: 1 set of // sides

Example 2: Finding the Coordinates of a Missing Vertex

Find the coordinates of each missing vertex.

I Do

$\triangle ABC$ has a right angle at C and $AC = 2$. Find one set of possible coordinates for A if $B(1, -2)$ and $C(4, -2)$.

$A(4, 0)$
 or
 $A(4, -4)$

Example 2 Continued

Find the coordinates of each missing vertex.

You Do

Quadrilateral LMNP is a parallelogram. Find the coordinates of N if $L(-2, 2)$, $M(1, 4)$, $P(-2, -2)$.

$N(1, 0)$