

Warm Up

May 8, 2017

Graph the quadrilateral ABCD using the following coordinates:

A(5, -1)

B(3, 3)

C (-3, 3)

D(-4, -1)

Use the slopes and lengths of each side to classify the quadrilateral.

Quadrilateral ABCD is a _____ because

Warm Up

December 13, 2017

Application of Distance and Midpoint

#1-4

(back of Mon. 12/11 HW)

TRIANGLES:

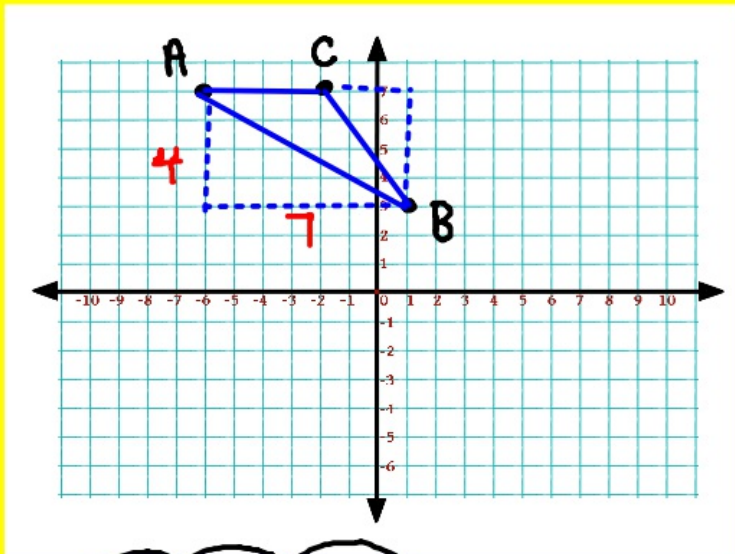
CHARACTERISTICS

CLASSIFYING



Perimeter:

Given a triangle with vertices A (-6,7) B(1,3) and C(-2, 7)
What is the approximate perimeter? Round to the nearest hundredth.



How do you calculate the perimeter of ANY shape?

$$\overline{AC} = 4$$

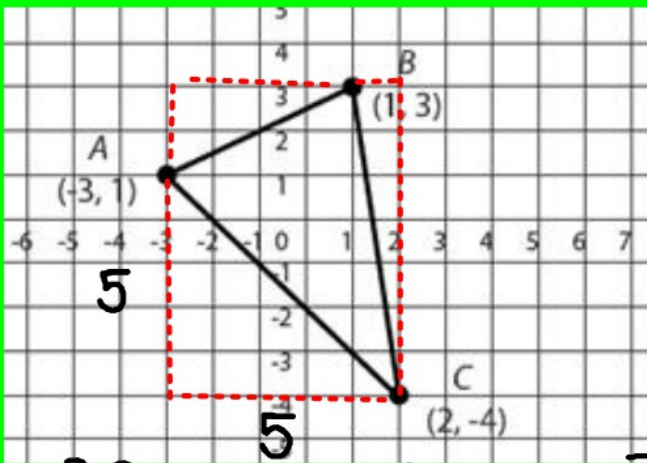
$$\overline{AB} = 4^2 + 7^2 = c^2$$
$$\sqrt{65} = \sqrt{c^2}$$
$$c = 8.06$$

$$\overline{CB} = 3^2 + 4^2 = c^2$$
$$\sqrt{25} = \sqrt{c^2}$$
$$c = 5$$

Perimeter
 $8.06 + 5 + 4$
 17.06

Perimeter:

Given a triangle with vertices A (-3,1) B (1,3) and C (2, -4). Calculate the perimeter of the triangle. Round to the nearest hundredth.



How do you calculate the perimeter of ANY shape?

$$\overline{AB} = 2^2 + 4^2 = C^2$$
$$\sqrt{20} = \sqrt{C^2}$$
$$C = 4.47$$

$$\overline{AC} = 5^2 + 5^2 = C^2$$
$$\sqrt{50} = \sqrt{C^2}$$
$$C = 7.07$$

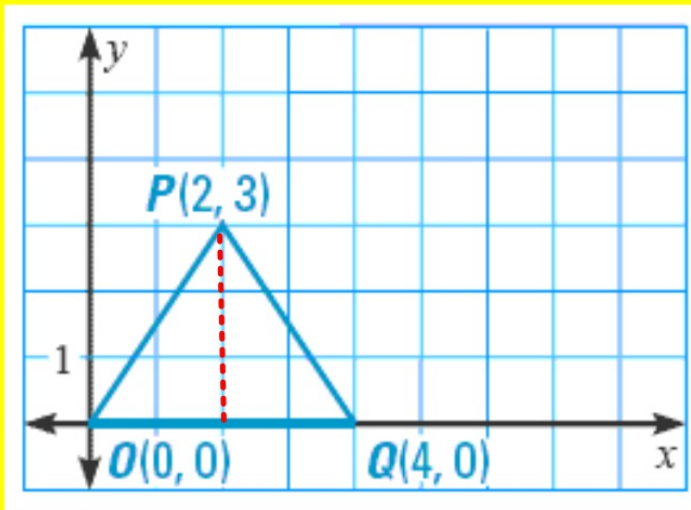
$$\overline{BC} = 7^2 + 1^2 = C^2$$
$$\sqrt{50} = \sqrt{C^2}$$
$$C = 7.07$$

Perimeter: 18.61

Area:

Determine the area of triangle OPQ.

$$A = \frac{1}{2}bh$$

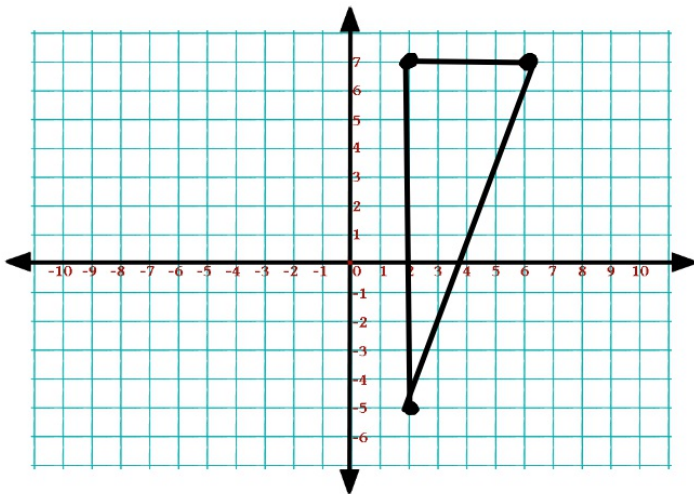


How do you calculate the area of a triangle?

$$A = \frac{1}{2}(3)(4)$$
$$A = 6 \text{ units}^2$$

Area:

Given a triangle with vertices X(2, -5) Y(2, 7) and Z (6, 7).
Calculate the area of the triangle.



How do you calculate
the area of a triangle?

$$A = \frac{1}{2}bh$$

$$A = \frac{1}{2}(4)(12)$$

$$A = 24 \text{ units}^2$$

Classifying Triangles:

Triangles can be classified by their side lengths.

Match each triangle to the appropriate description.

Equilateral

The lengths of
at least two sides
are the same.

Isosceles

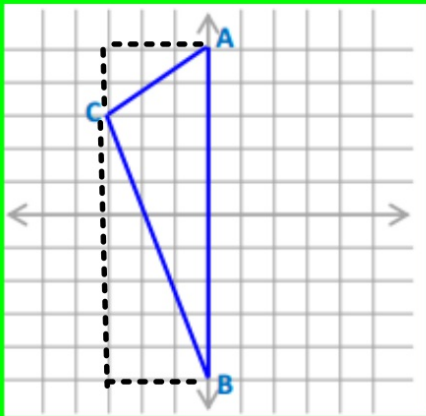
All 3 sides have
different lengths.

Scalene

All three side
lengths are the same.

Remember: LENGTH = DISTANCE

Use the side lengths to prove that triangle ABC is **scalene**.



$$\text{length AB} = 10$$

$$\begin{aligned}\text{length BC} &= \sqrt{8^2 + 3^2} = c^2 \\ \sqrt{71} &= c^2 \\ c &= 8.54\end{aligned}$$

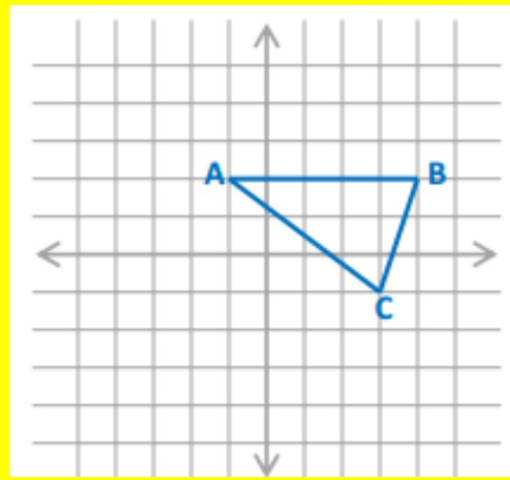
$$\begin{aligned}\text{length CA} &= \sqrt{2^2 + 3^2} = c^2 \\ 13 &= c^2 \\ c &= \sqrt{13} \\ c &= 3.61\end{aligned}$$

Given triangle ABC, classify it as equilateral, isosceles, or scalene.

$$\text{length AB} = 5$$

$$\begin{aligned} \text{length BC} &= 1^2 + 3^2 = c^2 \\ &10 = c^2 \\ &3.16 \end{aligned}$$

$$\begin{aligned} \text{length CA} &= 3^2 + 4^2 = c^2 \\ &\sqrt{25} = \sqrt{c^2} \\ &C = 5 \end{aligned}$$



Triangle ABC is isosceles because the lengths of two sides are the same.

Exit Ticket

Given a triangle with vertices $A(0,6)$, $B(3,6)$, and $C(3,0)$.

1.) Calculate the perimeter.

2.) Calculate the area.

3.) Use the lengths of each side to determine whether the triangle is equilateral, scalene, or isosceles.