Classify the Triangle

Scalene
Right △

$XY = \sqrt{(x_2-x_1)^2+(y_2-y_1)^2}$

$= \sqrt{(5-1)^2+(8-2)^2}$

$= \sqrt{4^2+6^2}$

$= \sqrt{16+36} = \sqrt{52}$

$YZ = \sqrt{(8-5)^2+(6-8)^2}$

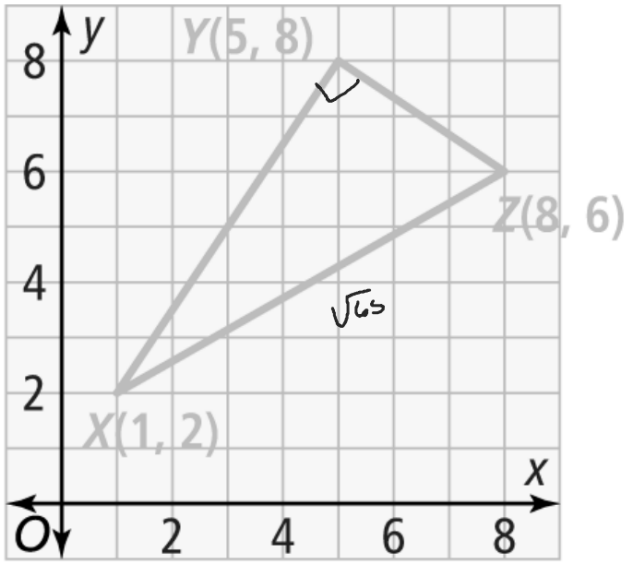
$= \sqrt{3^2+(-2)^2}$

$\sqrt{9+4} = \sqrt{13}$

$XZ = \sqrt{(8-1)^2+(6-2)^2}$

$= \sqrt{7^2+4^2}$

$\sqrt{49+16} = \sqrt{65}$



$YZ = \frac{y_2-y_1}{x_2-x_1} = \frac{6-8}{8-5} = \frac{-2}{3}$

$XZ = \frac{6-2}{8-1} = \frac{4}{7}$

$XY = \frac{8-2}{5-1} = \frac{6}{4} = \frac{3}{2}$

Classify Triangle PQR: P(4, 1), Q(2, 7), and R(8, 5)

PQ

$\sqrt{(2-4)^2+(7-1)^2}$

$\sqrt{(-2)^2+(6)^2}$

$\sqrt{4+36}$

$\sqrt{40}$

QR

$\sqrt{(8-2)^2+(5-7)^2}$

$\sqrt{6^2+(-2)^2}$

$\sqrt{36+4}$

$\sqrt{40}$

PR

$\sqrt{(8-4)^2+(5-1)^2}$

$\sqrt{(4)^2+4^2}$

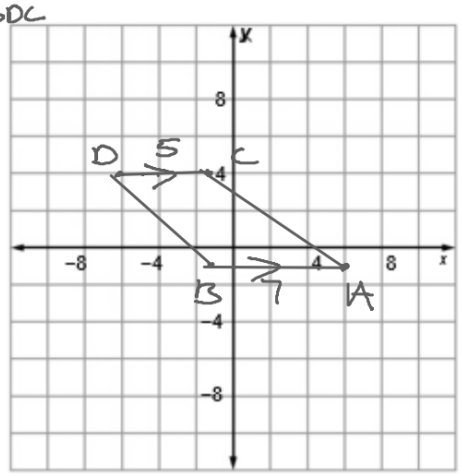
$\sqrt{16+16}$

$\sqrt{32}$

Isos $\triangle$

Given the points A(6, -1), B(-1, -1), C(-1, 4), and D(-6, 4)

a. Sketch quadrilateral ~~*ABCD*~~ *ABDC* on the coordinate grid below.



Slope DC = 0

Slope AB = 0

Slope DB = $\frac{-5}{5} = -1$

Slope AC = $\frac{-5}{7}$

$AC = \sqrt{(-1-6)^2 + (4-(-1))^2}$

$\sqrt{(-7)^2 + 5^2}$

$\sqrt{49+25} = \sqrt{74}$

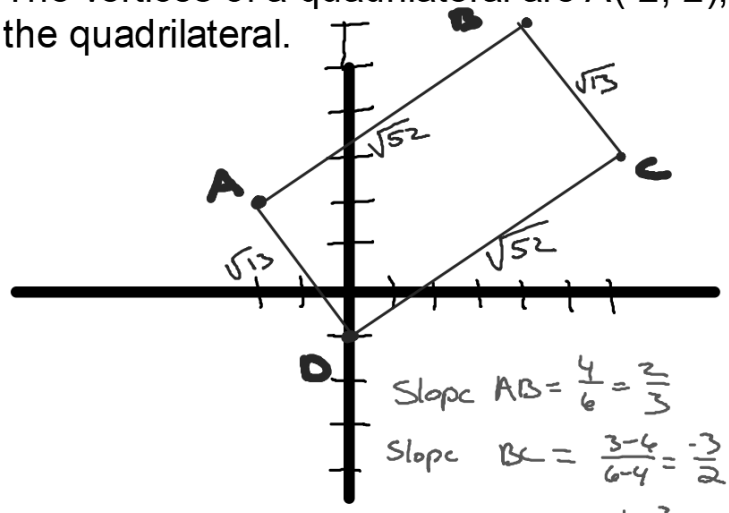
$BD = \sqrt{(-6-(-1))^2 + (4-(-1))^2}$

$\sqrt{(-5)^2 + 5^2}$ $\sqrt{50}$

b. What kind of quadrilateral is *ABCD*? Give the reasons for your answer.

Length of:	Slope of:	Type of Quadrilateral:	Reasons:
AB = 7	AB	Trapezoid	because one pair
BC =	BC		opposite sides ||.
CD	CD		
AD	AD		

The vertices of a quadrilateral are A(-2, 2), B(4, 6), C(6, 3) and D(0, -1), classify the quadrilateral.



$AB = \sqrt{(4+2)^2+(6-2)^2}$
$= \sqrt{6^2+4^2}$
$= \sqrt{36+16} = \sqrt{52}$

$BC = \sqrt{(6-4)^2+(3-6)^2}$
$= \sqrt{2^2+(-3)^2}$
$= \sqrt{4+9} = \sqrt{13}$

$CD = \sqrt{(0-6)^2+(-1-3)^2}$
$= \sqrt{(-6)^2+(-4)^2}$
$= \sqrt{36+16}$
$\sqrt{52}$

$AD = \sqrt{(-2-0)^2+(2+1)^2}$
$= \sqrt{(-2)^2+(3)^2}$
$= \sqrt{4+9}$
$\sqrt{13}$

Slope $AB = \frac{4}{6} = \frac{2}{3}$

Slope $BC = \frac{3-6}{6-4} = \frac{-3}{2}$

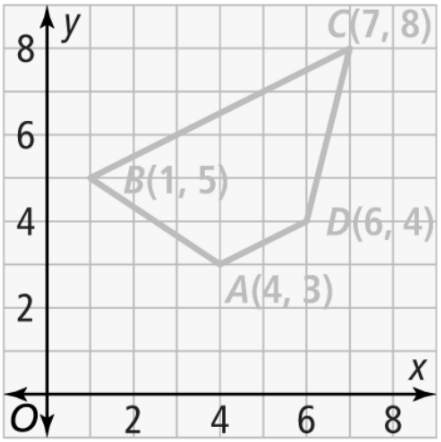
Slope $DC = \frac{-1-3}{0-6} = \frac{-4}{-6} = \frac{2}{3}$

Rectangle

$BD = \sqrt{(0-4)^2+(-1-6)^2}$
$\sqrt{(-4)^2+(-7)^2} =$
$\sqrt{16+49} = \sqrt{65}$

$AC = \sqrt{(6+2)^2+(3-2)^2}$
$\sqrt{(8)^2+(1)^2}$
$\sqrt{64+1} = \sqrt{65}$

Classify the quadrilateral.



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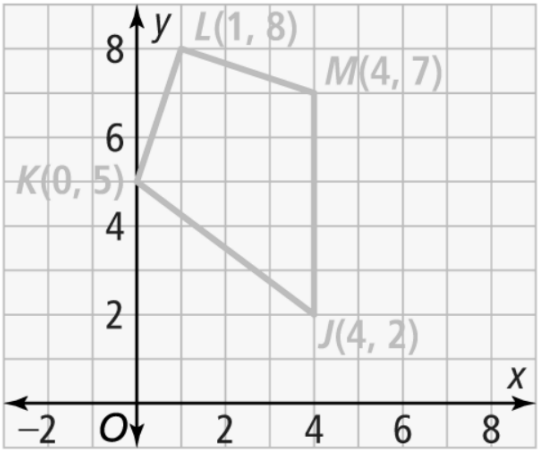
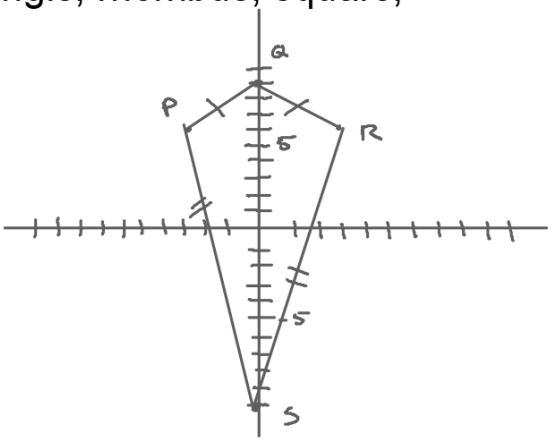


Classify the quadrilateral as parallelogram, rectangle, rhombus, square, trapezoid, or kite. Be as specific as possible.



P(-3, 6), Q(0, 9), R(3, 6), S(0, -10)

$PQ = \sqrt{18}$

$QR = \sqrt{18}$

$RS = \sqrt{265}$

$PS = \sqrt{265}$

Classify the quadrilateral as parallelogram, rectangle, rhombus, square, trapezoid, or kite. Be as specific as possible.

M(5,2), A(1, 9), T(-3,2), H(1,-5)

Classify the quadrilateral as parallelogram, rectangle, rhombus, square, trapezoid, or kite. Be as specific as possible.

B(3,5), O(8, 8), A(5,13), T(0,10)