

POLYGONS IN THE COORDINATE PLANE

 Guided Notes

Re-calling Formulas

- Distance between two points (x_1, y_1) and (x_2, y_2)

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

- Slope formula given two points

$$\frac{y_2 - y_1}{x_2 - x_1}$$

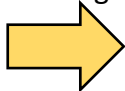
- Midpoint of two points of a line or a line segment

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

Classification of Triangles

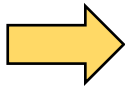
The classification of triangles based on **angles** is:

Acute



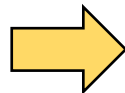
All three angles are less than 90°

Obtuse



One of the angles is greater than 90°

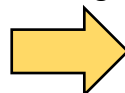
Right



One of the angles is equal to 90°

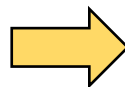
The classification of triangles based on **sides** is:

Scalene



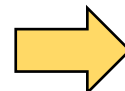
All three sides are of different length

Isosceles



Two sides are of same length

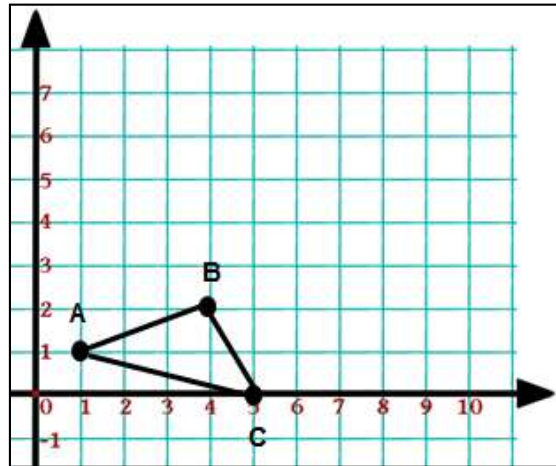
Equilateral



All three sides are of same length

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Problem 1: Classify the triangle shown in the figure below.



POLYGONS IN THE COORDINATE PLANE Guided Notes

Classification of Quadrilaterals

- Parallelogram

The opposite sides are parallel and have same slopes

- Rectangle

The diagonals are of same length

- Square

The sides are perpendicular and all the sides are of equal length

- Rhombus

The slopes of diagonals are negative reciprocal of each other and all the sides are of equal length

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Problem 2: Classify the quadrilateral shown in the figure below.

