

Answer on Question #56367 – Math – Analytic Geometry

Question

Verify if the given point is collinear. (COLLINEAR POINT lie on a straight line)
(0,-4), (2,0), (3,2)

Solution

Collinear points would be on a line with the same slope.

You can calculate the slope of a line between each data pair.

If the slopes all match, the points are all on a line (collinear)

The equation for slope is

$$m = \frac{(\Delta)y}{(\Delta)x}$$

$$m_{1,2} = \frac{0 - (-4)}{2 - 0} = \frac{4}{2} = 2$$

$$m_{2,3} = \frac{2 - 0}{3 - 2} = \frac{2}{1} = 2$$

$$m_{1,3} = \frac{2 - (-4)}{3 - 0} = \frac{6}{3} = 2$$

All the slope match, therefore these points are collinear.

Answer: these points are collinear.