Answer on Question #37448 – Math - Geometry

In the coordinate plane the point X (0,-3) is translated to the point X'(-3, 0). Under the same translation the points Y(4,-6) and the Z(-4,-5) as translated to Y' and Z' respectively what are the coordinates of Y' and Z'?

Solution

X (0,-3) is translated to the point X'(-3, 0). So

$$\Delta x = x_{X'} - x_X = -3 - 0 = -3$$

and

$$\Delta y = y_{X'} - y_X = 0 - (-3) = 3.$$

Then for Y(4,-6) the coordinates of Y' are

$$x_{Y'} = x_Y + \Delta x = 4 + (-3) = 1,$$

$$y_{Y'} = y_Y + \Delta y = -6 + 3 = -3.$$

For Z(-4,-5) the coordinates of Z' are

$$x_{Z'} = x_Z + \Delta x = -4 + (-3) = -7,$$

$$y_{Z'} = y_Z + \Delta y = -5 + 3 = -2.$$

Answer: Y'(1,-3); Z'(-7,-2).