

LARSON GEOMETRY**CHAPTER 5, LESSON 3, EXTRA EXAMPLE****Extra Example 2 Finding the Centroid of a Triangle**

Find the coordinates of the centroid of $\triangle PQR$.

SOLUTION

You know that the centroid is two thirds of the distance from each vertex to the midpoint of the opposite side.

Choose the median \overline{PM} . Find the coordinates of M , the midpoint of \overline{QR} .

The coordinates of M are

$$\left(\frac{6 + 4}{2}, \frac{4 + 0}{2}\right) = \left(\frac{10}{2}, \frac{4}{2}\right) = (5, 2).$$

Find the distance from vertex P to midpoint M . The distance from $P(-1, 2)$ to $M(5, 2)$ is $5 - (-1)$, or 6 units.

Determine the coordinates of the centroid, which is $\frac{2}{3} \cdot 6$, or 4 units to

the right of vertex P along the median \overline{PM} .

◆ The coordinates of centroid X are $(-1 + 4, 2)$, or $(3, 2)$.

