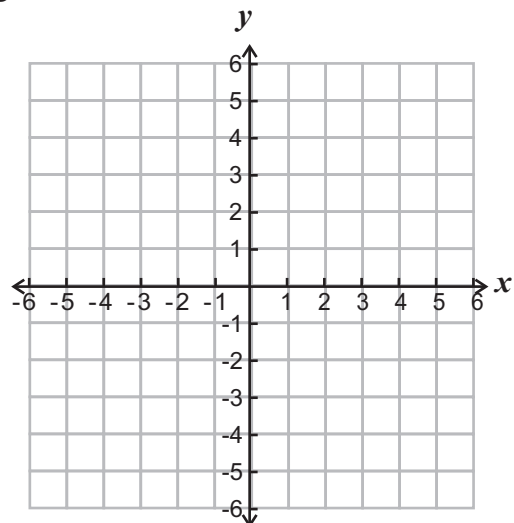# Challenge Problems

## 10.2

**Set 1**

**1** A line segment has one endpoint at (-4, 3). It passes through the point (1, 3), and its other endpoint is at (7, $y$). What is the value of $y$? Explain how you know.

**2** Point $A$ is at (2, 1), and point $B$ is at (4, 2). Graph $\overrightarrow{AB}$. Does $\overrightarrow{AB}$ pass through the origin? Graph $\overrightarrow{BA}$. Does $\overrightarrow{BA}$ pass through the origin?

**1** The vertices of an isosceles triangle are (-4, 1), (2, 1), and ($x$, 5). What is the value of $x$? Explain how you know.

**2** A parallelogram has vertices at (0, 0), (4, 0), and (1, 5). What are the possible coordinates for the fourth vertex? (Hint: There are three possible vertices.)

# Additional Work Area

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