Essential Question

Learning Target: I can graph in standard form.

\[Ax + By = C\]

Core Concept

Example 1

Graph (a) \(y = 4\) and (b) \(x = -2\).

Monitoring Progress 1-2

Graph the linear equation.

1. \(y = -2.5\)
2. \(x = 5\)

Core Concept

Example 2

Use intercepts to graph the equation \(3x + 4y = 12\).

[Diagram showing how to find x-intercept and y-intercept.]
Use intercepts to graph the linear equation. Label the points corresponding to the intercepts.

You are planning an awards banquet for your school. You need to rent tables to seat 180 people. Tables come in two sizes. Small tables seat 6 people, and large tables seat 10 people. The equation $6x + 10y = 180$ models this situation, where $x$ is the number of small tables and $y$ is the number of large tables.

a. Graph the equation. Interpret the intercepts.

b. Find four possible solutions in the context of the problem.

5. **WHAT IF?** You decide to rent tables from a different company. The situation can be modeled by the equation $4x + 6y = 180$, where $x$ is the number of small tables and $y$ is the number of large tables. Graph the equation and interpret the intercepts.

**Writing Prompt:** To graph the equation $2x + y = 4$ ...

Monitoring Progress 3-4

Example 3

Monitoring Progress 5

Closure