1. Graph the following relations:
   (a) \( \{(0, 2), (-1, \pi), (2, 2), (3, -4)\} \)
   (b) \( \{(m, \frac{m}{2}) : m = 0, \pm 1, \pm 2\} \)
   (c) \( \{(x, -2) : -1 < x \leq 3.5\} \)

2. What is the equation of the vertical line through the point \((-2, 1)\)?

3. What is the equation of the horizontal line through the point \((-3, -11.5)\)?

4. Name 3 points on the line \(x = 7\), then graph the line.

5. Are the following points on the graph of \(y^2 + 3xy - x^3 = -1\)?
   (a) \((1, 2)\)
   (b) \((-1, 1)\)

6. Find the \(x\) and \(y\) intercepts of the following equations
   (a) \(5x + 4y = \frac{1}{2}\)
   (b) \(x^2 + (y - 1)^2 = 9\)
   (c) \(y = 2\sqrt{x + 3} - 50\)
   (d) (optional) \(y = x^3 - 6x\)

7. Determine if \(x^2 + (y - 1)^2 = 4\) is symmetric about any of \(x\)-axis, \(y\)-axis, or the origin.

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**Sketching an Equation**

- Identify \(x, y\) intercepts
- Test for symmetry
- Plot sample points as needed.