



Algebra 1

Topic: Solving Equations by Graphing

Instructions

Solve the following equations by graphing. Show all your work, including the graph, and check your solution.

Practice Problems

1. Solve the following equations by graphing:

(i) $x + 4 = -x$

(iv) $-2x + 6 = 5x - 1$

(ii) $4x = x + 3$

(v) $5x + 3 = 2x + 6$

(iii) $x + 5 = 2x - 4$

(vi) $\frac{1}{2}x - 2 = 9 - 5x$

2. Solve the equation by graphing. Determine whether the equation has one solution, no solution, or finitely many solutions:

(i) $x + 5 = 2x$

(iv) $3x - 1 = -x + 7$

(ii) $x + 3 = 2x - 1$

(v) $-x - 5 = -\frac{1}{3}(3x + 5)$

(iii) $-4(2 - x) = 4x - 8$

(vi) $\frac{1}{2}(8x + 3) = 4x + \frac{3}{2}$

Multiple-Choice Questions

1. The solution to the system $y = 2x + 3$ and $y = -x + 1$ is:

a. $(2, 5)$

b. $(3, 4)$

- c. $(1, 6)$
 - d. $(0, 7)$
2. The solution to the system $y = -x + 2$ and $y = 3x - 1$ is:
- a. $(1, 1)$
 - b. $(0, 2)$
 - c. $(-1, 3)$
 - d. $(2, 4)$
3. The system of equations $x + 2y = 4$ and $2x + 4y = 8$ has:
- a. One solution
 - b. No solution
 - c. Infinitely many solutions
 - d. None of the above
4. The system of equations $x + y = 5$ and $x + y = 10$ has:
- a. One solution
 - b. No solution
 - c. Infinitely many solutions
 - d. None of the above
5. The solution to the system $2x + y = 9$ and $4x - 3y = 7$ is:
- a. $(1, 7)$
 - b. $(2, 5)$
 - c. $(3, 4)$
 - d. $(0, 9)$

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