

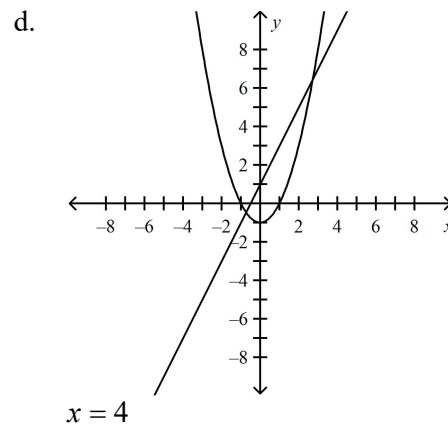
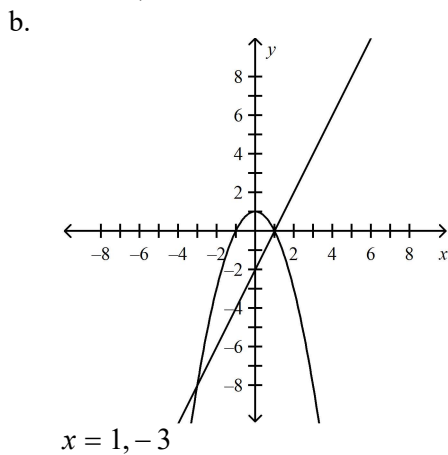
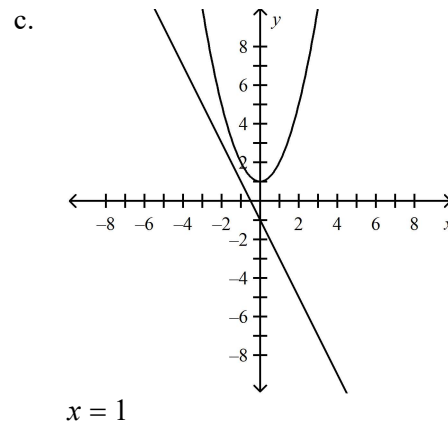
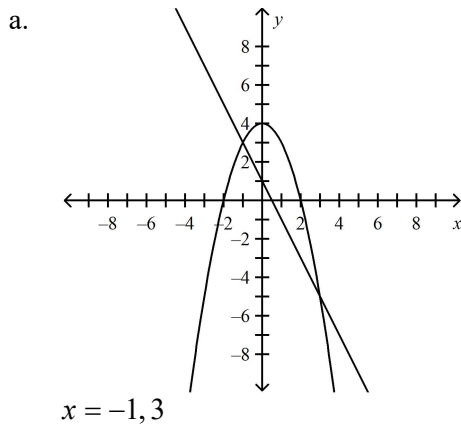
Chapter 2 Test - PreCalculus - Mr. Lee - SHOW ALL WORK

Study Guide

Multiple Choice

Identify the choice that best completes the statement or answers the question.

_____ 1. Use the intersect method to solve the equation $-2x + 1 = -x^2 + 4$.



_____ 2. Use the x -intercept method to find all real solutions of the equation.

$$x^3 - 9x^2 + 20x - 12 = 0$$

- | | |
|---------------------------------|--------------------------------|
| a. $x = 1, 2, \text{ or } -6$ | c. $x = -1, -2, \text{ or } 6$ |
| b. $x = -1, -2, \text{ or } -6$ | d. $x = 1, 2, \text{ or } 6$ |

_____ 3. Solve by completing the square:

$$x^2 + 3x - 10 = 0$$

- | | |
|----------------------------|---------------------------|
| a. $x = -5 \text{ or } -2$ | c. $x = -5 \text{ or } 2$ |
| b. $x = 5 \text{ or } 2$ | d. $x = 5 \text{ or } -2$ |

_____ 4. Find all real solutions of the equation $\left| \frac{3}{6}x + 3 \right| + 8 = 9$.

- | | |
|-------------------------|------------------------|
| a. $-1 \text{ or } -40$ | c. $40 \text{ or } 8$ |
| b. $8 \text{ or } -2$ | d. $-4 \text{ or } -8$ |

- _____ 5. Find all real solutions of the equation $|x^2 + 10x + 23| = 2$.
- a. $x = -7, -6, \text{ or } -4$ c. $x = -7, -6, \text{ or } -1$
b. $x = -7, -5, \text{ or } -3$ d. $x = -7, -6, \text{ or } -5$
- _____ 6. Find all real solutions of the equation $\sqrt{x^2 + 6x - 12} = 2$.
- a. $x = -8 \text{ or } 2$ c. $x = 8 \text{ or } 2$
b. $x = -2 \text{ or } 8$ d. $x = -8 \text{ or } -2$
- _____ 7. Find all real solutions of the equation $0 = \frac{x^2 - 3x - 28}{x + 4}$.
- a. $x = 7 \text{ or } 8$ c. $x = -7$
b. $x = 7 \text{ or } -8$ d. $x = 7$
- _____ 8. Which of the following represents $1 < x \leq 6$?
- a. $[1, 6]$ c. $(1, 6)$
b. $(1, 6]$ d. $[1, 6)$
- _____ 9. Solve the inequality and express your answer in interval notation.
 $-10 \leq -2x + 6 \leq -2$
- a. $[-4, 9]$ c. $[-4, 8]$
b. $[4, 9]$ d. $[4, 8]$
- _____ 10. Solve the inequality and express your answer in interval notation.
 $x^2 + 8x + 3 < 0$
- a. $(-4 - \sqrt{13}, -4 + \sqrt{13})$ c. $[-4 - \sqrt{13}, -4 + \sqrt{13}]$
b. $(-\infty, -4 - \sqrt{13}) \text{ or } (-4 + \sqrt{13}, \infty)$ d. $(-\infty, -4 - \sqrt{13}] \text{ or } [-4 + \sqrt{13}, \infty)$

Short Answer

11. Use the x -intercept method to find all real solutions of the equation.
 $14x^3 - 53x^2 + 41x - 4 = -4x^3 + x^2 + 1x + 4$
12. If an object is dropped from a height of 37 feet, the function $d = -16t^2 + 37$ gives the height of the object after t seconds. Graph this function. Approximately how long does it take the object to reach the ground ($d = 0$)?
13. Solve by factoring:
 $25x^2 + 5x - 12 = 0$
14. Solve by using the quadratic formula:
 $x^2 - 6x + 7 = 0$
15. Solve by taking the square root of both sides.
 $(3x + 3)^2 = 25$
16. Solve the equation.
 $2x^2 - 1 = 5x$

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17. Find all real solutions of the equation $|5 - 0.2x| + 3 = 14$.

18. Find all real solutions of the equation $\frac{-4x^2 - 13x - 3}{x^2 - 4x - 3} = 0$.

19. Solve the inequality and express your answer in interval notation.
 $7x - 10 \leq 8x + 2$

20. Solve the inequality and express your answer in interval notation.
 $\frac{(x - 5)(x + 6)}{(x - 3)} \geq 0$