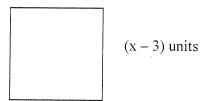
Solving and Graphing Quadratic Equations

- 1. Solve: $x^2 = -x + 30$
 - A. x = -6, -5
 - B. x = -6, 5
 - C. x = -5, 6
 - D. x = 5, 6
- 2. Solve: $(x+3)^2 = 36$
 - A. x = 3
 - B. x = 9
 - C. x = -9, 3
 - D. x = 3, 9
- 3. Solve: $2x^2 4x 3 = 0$
 - A. $x = 1 \pm 2\sqrt{10}$
 - B. $x = 2 \pm \sqrt{10}$
 - C. $x = \frac{2 \pm \sqrt{10}}{2}$
 - $D. \quad x = \frac{2 \pm \sqrt{2}}{2}$

4. Consider the square below.

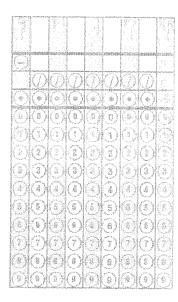


What is the value of x if the area of the square is 126.5625 square units?

- A. 8.25
- B. 11.25
- C. 14.25
- D. 17.25
- 5. The graph of which function has x-intercepts (-4, 0) and (7, 0)?
 - A. y = (x 4)(x + 7)
 - B. y = (x + 4)(x 7)
 - C. y = (x + 4)(x + 7)
 - D. y = (x 4)(x 7)
- 6. What are the zeros of the function $y = x^2 x 20$?
 - A. -5 and -4
 - B. -5 and 4
 - C. -4 and 5
 - D. 4 and 5
- 7. What are the x-intercepts of the graph of $y = 2x^2 + x 10$?
 - A. (-5, 0) and (2, 0)
 - B. (-2, 0) and (5, 0)
 - C. (-2, 0) and (2.5, 0)
 - D. (2, 0) and (-2.5, 0)

8. What is the solution of $x^2 - 16x = -64$?

Enter your answer in the response grid.



9. The height (h) of a stone, in meters, thrown into the air can be modeled by the equation $h = -4.9t^2 + 20t + 10$, where t represents time in seconds.

How many seconds will it take for the stone to hit the ground (h = 0) after it is thrown into the air? Round your answer to the tenths place.

Enter your answer in the response grid.

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10. A rectangular dance floor measures 24 feet by 32 feet. The length and width of the floor will both be increased by x feet.

Write an equation that can be used to determine the value of x, in feet, if the area of the new dance floor is 1,174.25 square feet.

Answer	•

What are the dimensions of the new dance floor, in feet, if the area is 1,174.25 square feet?

Answer

What is the perimeter of the new dance floor, in feet, if the area is 1,174.25 square feet?

Answer	•

- 11. Solve $\sqrt{2x+3} = x$.
 - A. x = -3
 - B. x = 1
 - C. x = 3
 - D. x = -1, 3

12. The height (h) of a certain insect, in feet, that jumps straight up into the air is modeled by the equation $h = -16t^2 + vt$, where t is the time in seconds after the insect jumps, and v is the initial upward velocity of the insect.

Write an equation that can be used to find the height (h) of the insect, in feet, after t seconds, if the insect's initial upward velocity is 4 feet per second.

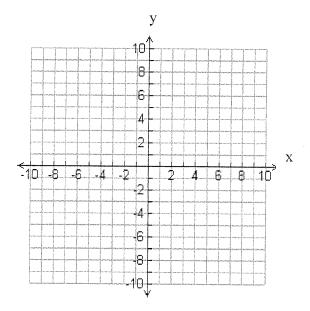
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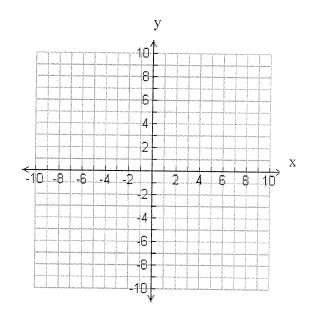
How long, in seconds, will it take for the insect to hit the ground after it jumps?

Answer	

13. Graph
$$y = x^2 + 4x - 3$$
.

14. Graph
$$y = -2x^2 + 8x$$
.





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