

Math Models - Graphing and Solving Quadratic Equations Assignment 52

Solve.

1. $2x^2 + 7x - 15 = 0$

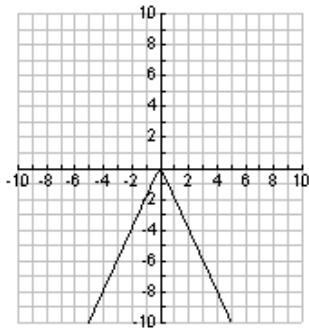
2. $x^2 + 2x + 8 = 4 - 3x$

3. The area of a rectangle is given by the equation $x^2 - 2x = 24$ where x is the length of the rectangle. What is the length of the rectangle?

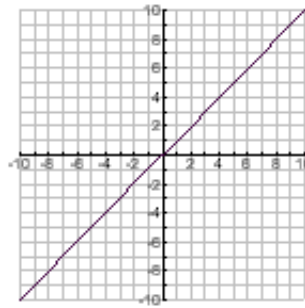
4. The area of a rectangle is described by the equation $2x^2 = 648$ where x is the width of the rectangle in feet. What is the width of the rectangle?

5. Which graph has a parent function of $y = x^2$?

a.

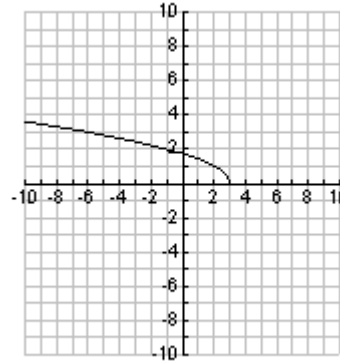
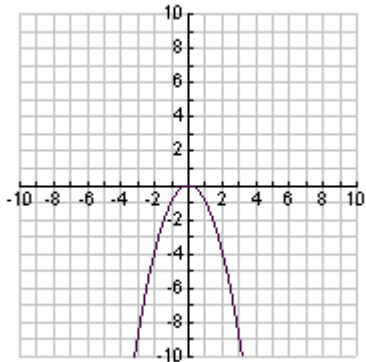


b.



d.

c.



6. Which set of ordered pairs satisfies the function $y = x^2 + 3x + 4$?

A.

x	y
1	7
2	14
3	28

B.

x	y
1	8
2	10
3	15

C.

x	y
1	7
2	14
3	19

D.

x	y
1	8
2	14
3	22

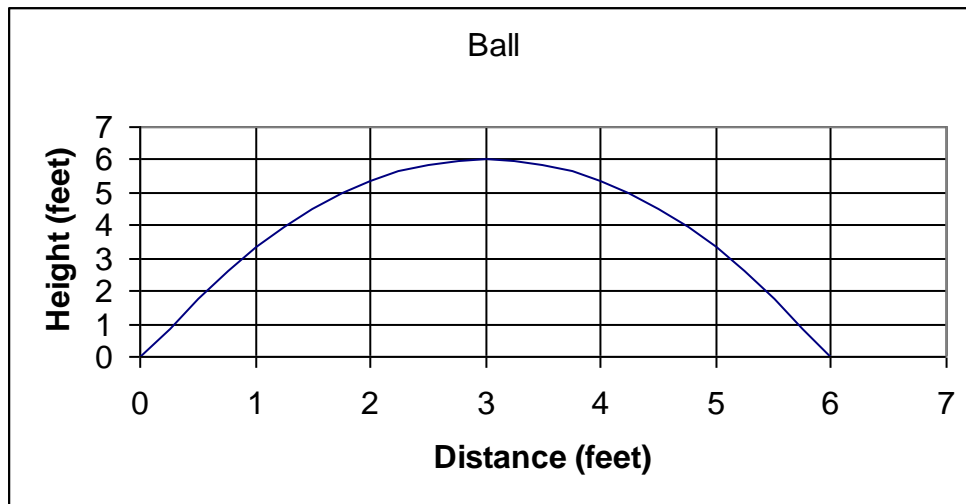
E.

x	y
1	9
2	12
3	15

7. At which points does $f(x) = 2x^2 - 15x + 18$ intersect the x -axis?

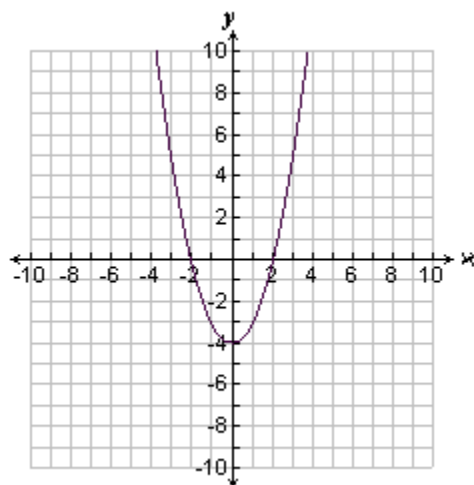
- A. $(-9, 0)$ and $(-2, 0)$
- B. $(-6, 0)$ and $(-3, 0)$
- C. $(-6, 0)$ and $(-1.5, 0)$
- D. $(1.5, 0)$ and $(6, 0)$
- E. $(3, 0)$ and $(6, 0)$

8. The graph of $y = -\frac{2}{3}x^2 + 4x$ below represents the path of a ball thrown into the air.



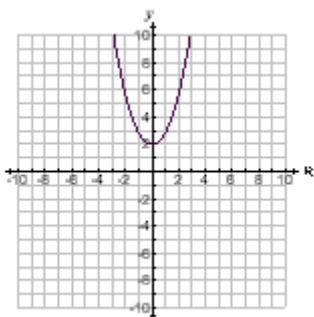
What is the horizontal distance when the ball is 6 feet above the ground?

9. The graph of $y = x^2 - 4$ is shown below.

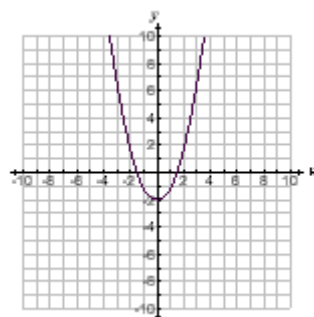


Which graph on the represents the graph of the parabola that has been translated 2 units down?

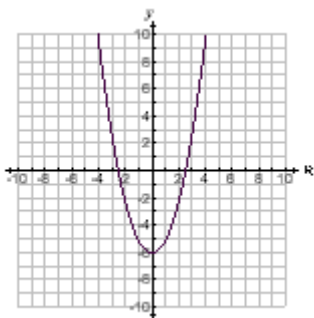
F.



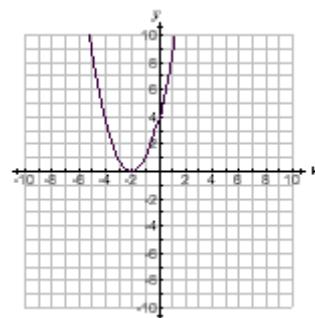
J.



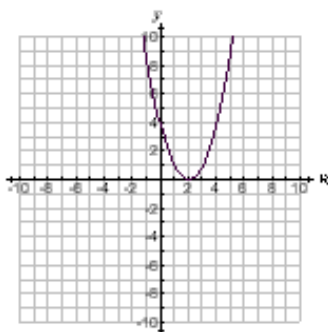
G.



K.



H.



Solve using graphing, factoring, square root, or quadratic formula.

10. What are the roots of the quadratic equation $5x^2 = 7x$?

11. What is the solution set for the equation $5x^2 - 10 = 35$?

12. What are the x -intercepts for the graph of the equation $y = x^2 + 2x - 48$?

13. What are the solutions to the equation $3y^2 + 5y = 2$