

The given functions provide the connection between possible areas, $A(x)$, that can be created by a rectangle for a given side length, x , and a set amount of perimeter. You could think of it as the different amounts of area you can close in with a given amount of fencing as long as you always create a rectangular enclosure.

Find the following:

1. $A(x) = x(10 - x)$

a. $A(3) =$

b. $A(4) =$

c. $A(6) =$

d. Solve: $A(x) = 0$

2. $A(x) = x(50 - x)$

a. $A(10) =$

b. $A(20) =$

c. $A(30) =$

d. Solve: $A(x) = 0$

For #3 – 8 solve. Choose between completing the square, factoring, and quadratic formula. Use each method at least once. State the method you are using, show work, and find the solution(s).

3. $x^2 + 17x + 60 = 0$

4. $x^2 + 16x + 39 = 0$

5. $x^2 + 7x - 5 = 0$

6. $3x^2 + 14x - 5 = 0$

7. $x^2 - 12x = -8$

8. $x^2 + 6x = 7$

Summarize the process for solving a quadratic by the indicated strategy. Give examples along with written explanation, also indicate when it is best to use this strategy.

11. Completing the Square

12. Factoring

13. Quadratic Formula

Graph the quadratic function and supply the desired information about the graph.

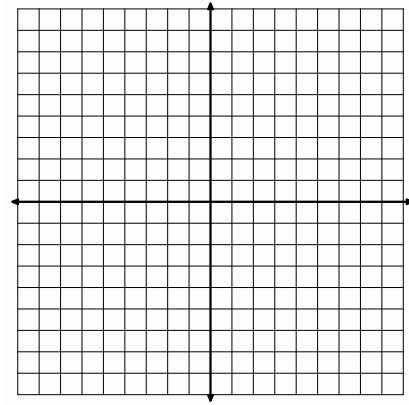
14. $f(x) = x^2 + 8x + 13$

a. Line of symmetry:

b. x-intercepts:

c. y-intercept:

d. vertex:



15. $f(x) = x^2 - 4x - 1$

a. Line of symmetry:

b. x-intercepts:

c. y-intercept:

d. vertex:

