# Quadratic Functions (4.1 – 4.2) Review

Name:_____ Period:_____

**Directions:** Multiply each set of monomials.

1. $(4a)(-8b)$
2. $(-c^3)(-6cd^2)(3c)(-4cd)$
3. $(-3e^3f^2)(15e^2f^3)(-7ef^4)$

**Directions:** Multiply each set of monomials and binomials.

4. $8g(4gh - 7h^2)$
5. $-5jk(9j^3k - 4jk^2)$
6. $9m^2n(7m^2n - mn^2)$

**Directions:** Multiply each pair of polynomials. **Show all work.**

7. $(p + 9)(p - 5)$
8. $(q + 4)(3q + 10)$
9. $(r + 5)^2$

10. $(s + 4)(s - 4)$
11. $(t - 3)(-5t + 8)$
12. $(2u + 7)(3u - 5)$

13. $(5v - 6w)^2$

14. $(-4x + 7y)(4x + 9y)$

15. $(3a + 7b)(3a - 7b)$

16. $(6c - 5d)(9c - 2d)$

17. $(8e + 7f)^2$

18. $(11g - 12h)(11g + 12h)$

19. $(j + 4)(j^2 + 7j - 5)$

20. $(k^2 - 10k + 5)(4k - 5)$

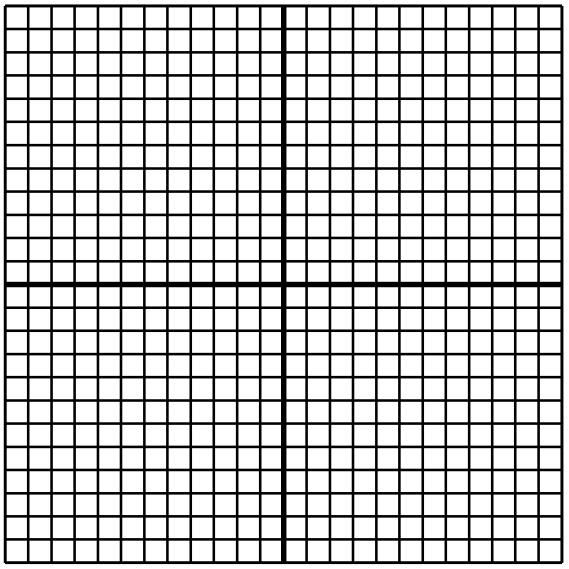
21. $(2m^2 + 5m - 6)(m^2 + 8m + 3)$

22. $(5n^2 + 7n - 6)(2n^2 - 5n + 11)$

**Directions:** Find the vertex of each quadratic function. Then graph the function.

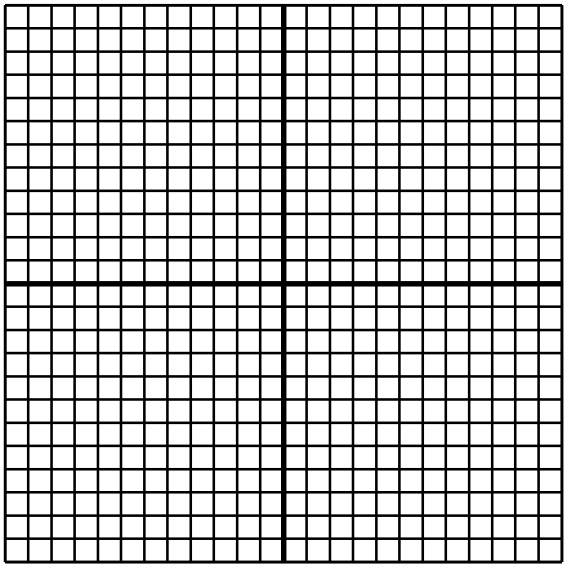
23. $f(x) = (x - 5)^2 - 6$

Vertex:_____



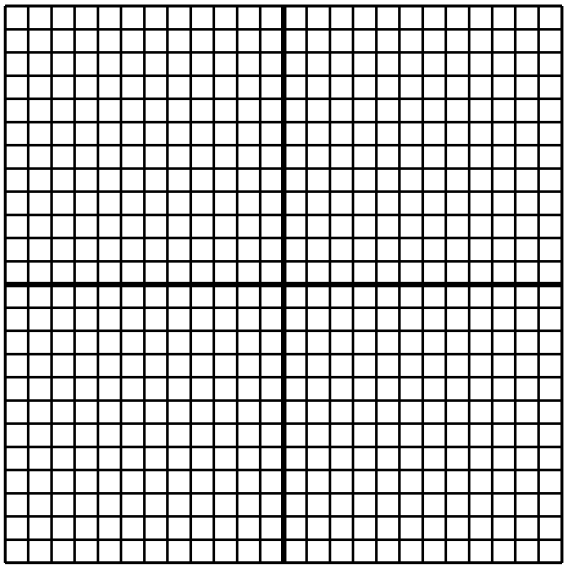
24. $f(x) = -(x + 2)^2 + 10$

Vertex:_____

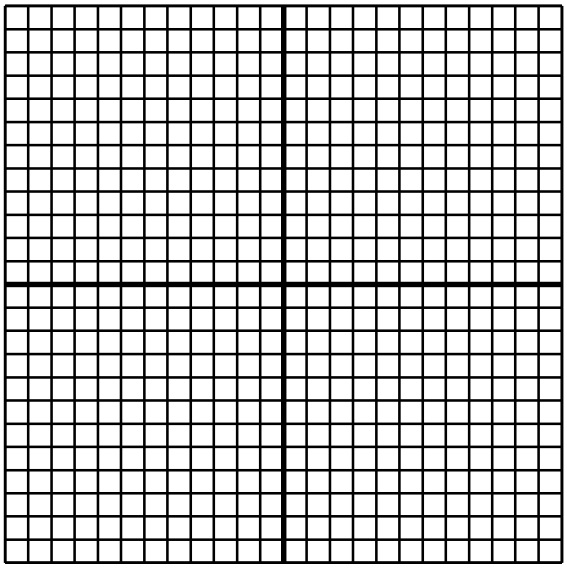


25. $f(x) = (x + 7)^2$

Vertex:_____

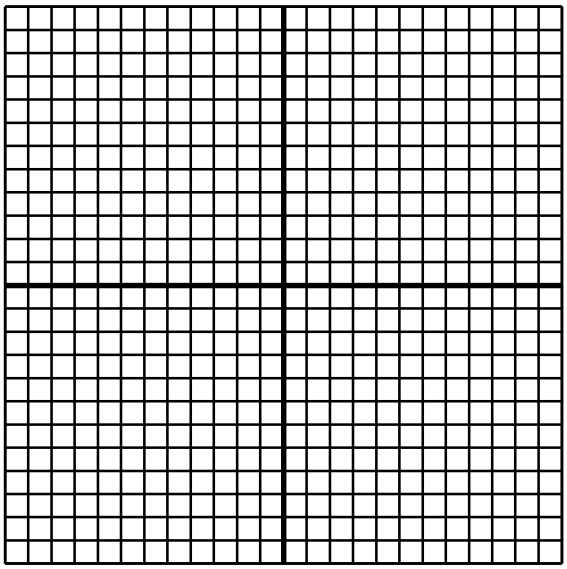


26. $f(x) = x^2 - 8x + 9$



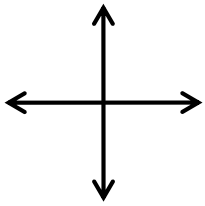
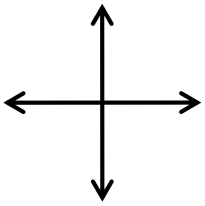
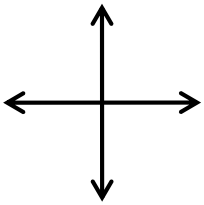
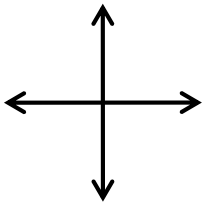
Vertex:_____

27. $f(x) = -x^2 - 10x - 18$



Vertex:_____

**Directions:** Complete the parent functions chart.

| **PARENT FUNCTION:** | **CONSTANT** | **LINEAR** | **ABSOLUTE VALUE** | **QUADRATIC** |
|---|---|---|---|---|
| **FUNCTION EQUATION:** | | | | |
| **GRAPH:** |  |  |  |  |
| **DOMAIN:** | | | | |
| **RANGE:** | | | | |