

IM2 – 3.3 (P – dV1) Key Characteristics & Vertex Form

F.IF.4, F.IF.5, F.IF.6



Name: _____ Per: _____ Date: _____

Directions - Write the vertex form from the characteristics given.

1. $y = __(x - __)^2 __$
 Vertex: (9, 4)
 $a: -2$

2. $y = __(x - __)^2 __$
 Vertex: (-5, 10)
 $a: 1$

3. $f(x) = __(x - __)^2 __$
 Vertex: (3, -14)
 $a: -\frac{8}{11}$

4. $y = __(x - __)^2 __$
 Vertex: (-11, 15)
 $a: -1$

5. $y = __(x - __)^2 __$
 Vertex: (2, -5)
 $a: 7$

6. $f(x) = __(x - __)^2 __$
 Vertex: (-4, 6)
 $a: 0.7$

7. $y = __(x - __)^2 __$
 Vertex: (3, -2)
 $a: 6$

8. $y = __(x - __)^2 __$
 Vertex: (-6, -9)
 $a: 0.4$

9. $f(x) = __(x - __)^2 __$
 Vertex: (5, -1)
 $a: \frac{4}{5}$

10. $y = __(x - __)^2 __$
 Vertex: (-8, -7)
 $a: 5$

11. $y = __(x - __)^2 __$
 Vertex: (1, 12)
 $a: \frac{1}{2}$

12. $f(x) = __(x - __)^2 __$
 Vertex: (8, -8)
 $a: 2.5$

13. $y = __(x - __)^2 __$
 Vertex: (21, 84)
 $a: -1$

14. $y = __(x - __)^2 __$
 Vertex: (-2, 3)
 $a: -10$

15. $f(x) = __(x - __)^2 __$
 Vertex: (1, 1)
 $a: -15$

16. $y = __(x - __)^2 __$
 Vertex: (-0.3, 7.4)
 $a: 1.1$

17. $y = __(x - __)^2 __$
 Vertex: $(\frac{1}{3}, \frac{2}{5})$
 $a: -9$

18. $f(x) = __(x - __)^2 __$
 Vertex: $(-\frac{5}{7}, -9)$
 $a: \frac{2}{3}$

19. $y = __(x - __)^2 __$
 Vertex: (2, -3)
 $a: 4$

20. $y = __(x - __)^2 __$
 Vertex: $(\frac{5}{2}, -\frac{9}{2})$
 $a: \frac{13}{2}$

21. $f(x) = __(x - __)^2 __$
 Vertex: (0.75, 1.25)
 $a: -8.5$

Directions - Identify the characteristics from the given vertex form.

22. $y = -3(x - 2)^2 - 6$
Vertex: ()
 a :

23. $f(x) = 0.4(x + 12)^2 - 17$
Vertex: ()
 a :

24. $y = (x - 20)^2 + 24$
Vertex: ()
 a :

25. $y = \frac{7}{8}(x + 9)^2 + 3$
Vertex: ()
 a :

26. $y = -5(x - 3)^2 + 28$
Vertex: ()
 a :

27. $f(x) = (x + 16)^2 - 12$
Vertex: ()
 a :

28. $y = -(x - 1)^2 - 2$
Vertex: ()
 a :

29. $f(x) = -0.5(x + 8)^2 - 1$
Vertex: ()
 a :

30. $y = (x - 2)^2 + 4$
Vertex: ()
 a :

31. $y = \frac{1}{2}(x + 1.5)^2 + 5$
Vertex: ()
 a :

32. $y = -8(x - 2)^2 + 17$
Vertex: ()
 a :

33. $f(x) = 3(x + 10)^2 - \frac{1}{4}$
Vertex: ()
 a :

34. $y = -\frac{3}{7}\left(x + \frac{3}{14}\right)^2 - \frac{1}{8}$
Vertex: ()
 a :

35. $f(x) = 45x^2 - 7$
Vertex: ()
 a :

36. $y = 5(x - 3)^2$
Vertex: ()
 a :

37. $y = 2x^2$
Vertex: ()
 a :

38. $y = -9x^2 + 0.9$
Vertex: ()
 a :

39. $f(x) = -(x - 24)^2 + 11$
Vertex: ()
 a :

40. $y = x^2 - 5.4$
Vertex: ()
 a :

41. $f(x) = 9(x + 0.1)^2 - 0.05$
Vertex: ()
 a :

42. $y = -(x + 99)^2 - 4$
Vertex: ()
 a :

43. $y = -\frac{1}{2}\left(x + \frac{3}{2}\right)^2 + \frac{5}{3}$
Vertex: ()
 a :

44. $y = \frac{1}{3}\left(x - \frac{2}{3}\right)^2 - 1$
Vertex: ()
 a :

45. $f(x) = \left(x + \frac{1}{4}\right)^2 - \frac{3}{4}$
Vertex: ()
 a :