

Graphing Quadratics from Vertex Form HOMEWORK

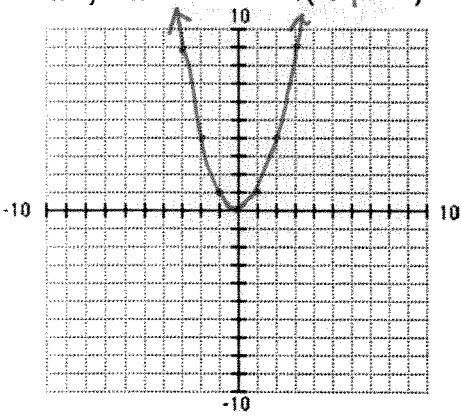
Name Keyz
 Date _____ Block _____

Unit 2, Day 4

Watch out for the ☺ problems!

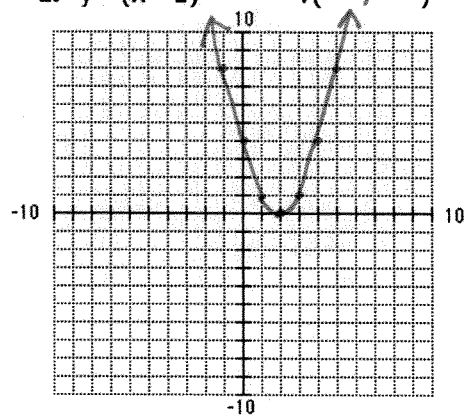
Graph each function without a calculator. State the vertex and its domain and range using interval notation.

1. $y = x^2$ $V(0, 0)$



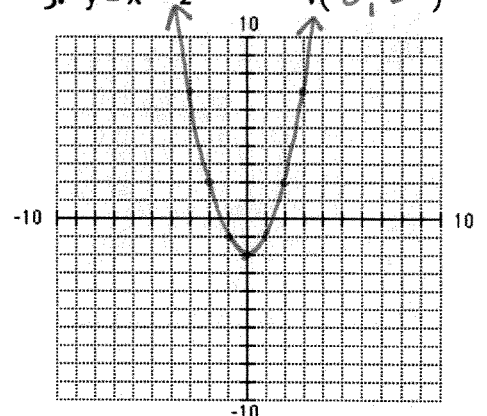
D: $(-\infty, \infty)$ R: $[0, \infty)$

2. $y = (x - 2)^2$ $V(2, 0)$



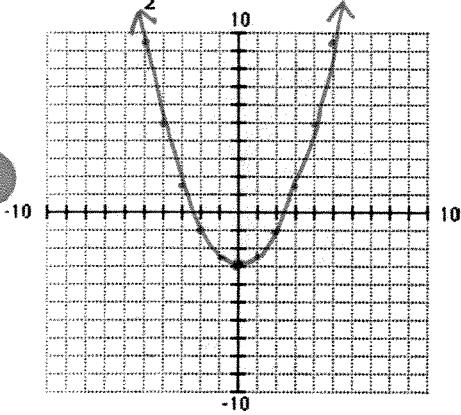
D: $(-\infty, \infty)$ R: $[0, \infty)$

3. $y = x^2 - 2$ $V(0, -2)$



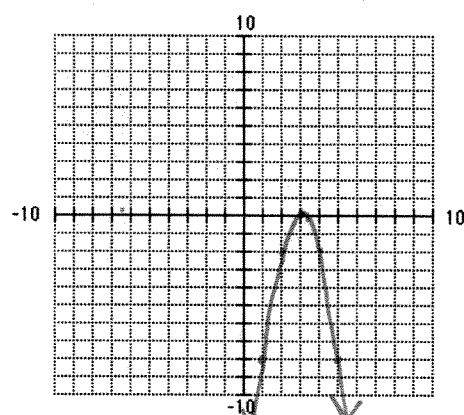
D: $(-\infty, \infty)$ R: $[-2, \infty)$

4. $y = \frac{1}{2}x^2 - 3$ $V(0, -3)$



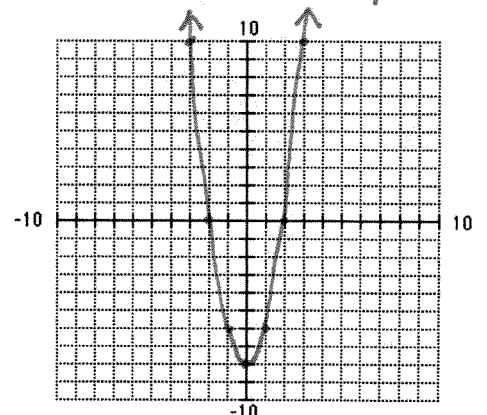
D: $(-\infty, \infty)$ R: $[-3, \infty)$

5. $y = -2(x - 3)^2$ $V(3, 0)$



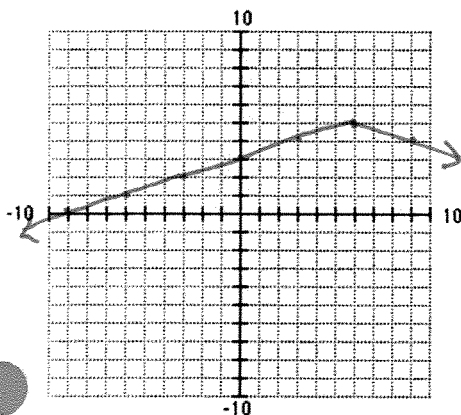
D: $(-\infty, \infty)$ R: $(-\infty, 0]$

6. $y = 2x^2 - 8$ $V(0, -8)$



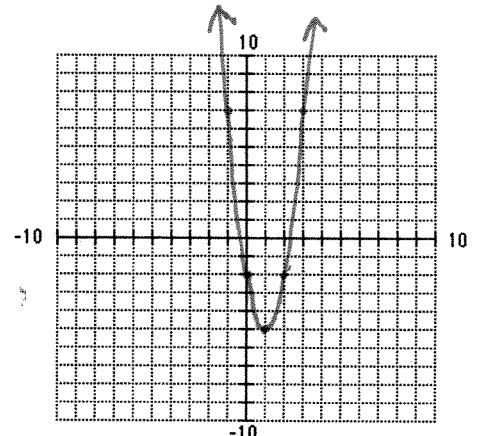
D: $(-\infty, \infty)$ R: $[-8, \infty)$

☺ 7. $y = -\frac{1}{3}|x - 6| + 5$ $V(6, 5)$



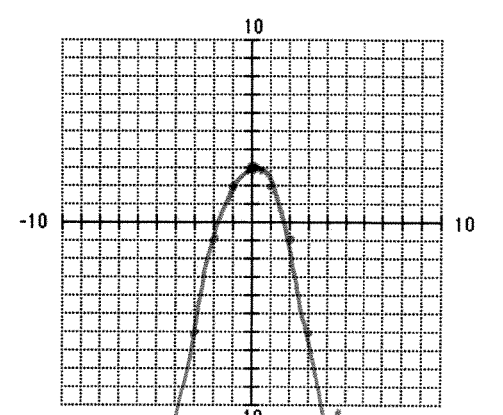
D: $(-\infty, \infty)$ R: $(-\infty, 5]$

8. $y = 3(x - 1)^2 - 5$ $V(1, -5)$



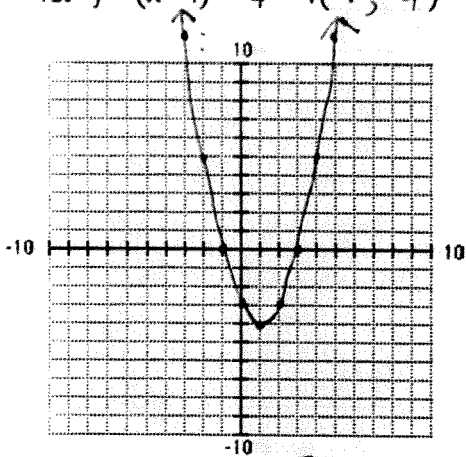
D: $(-\infty, \infty)$ R: $[-5, \infty)$

9. $y = -x^2 + 3$ $V(0, 3)$



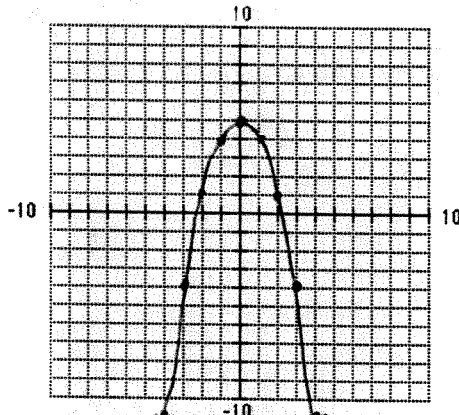
D: $(-\infty, \infty)$ R: $(-\infty, 3]$

10. $y = (x-1)^2 - 4$ $V(1, -4)$



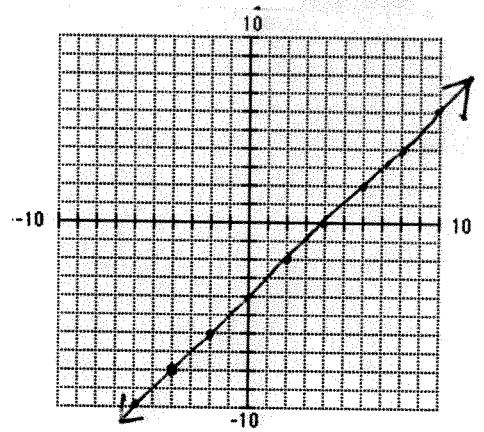
D: $(-\infty, \infty)$ R: $[4, \infty)$

11. $y = -x^2 + 5$ $V(0, 5)$



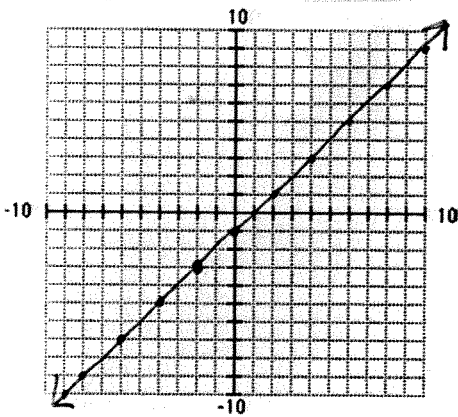
D: $(-\infty, \infty)$ R: $(-\infty, 5]$

Key
 12. $y = (x+4) - 8$ $V(-4, -8)$ (not a vertex)



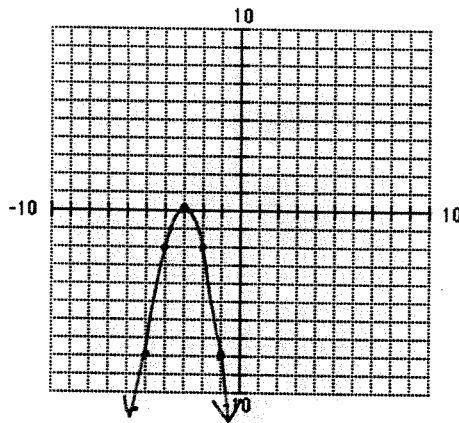
D: $(-\infty, \infty)$ R: $(-\infty, \infty)$

13. $y = (x+2) - 3$ $V(-2, -3)$ (not a vertex)



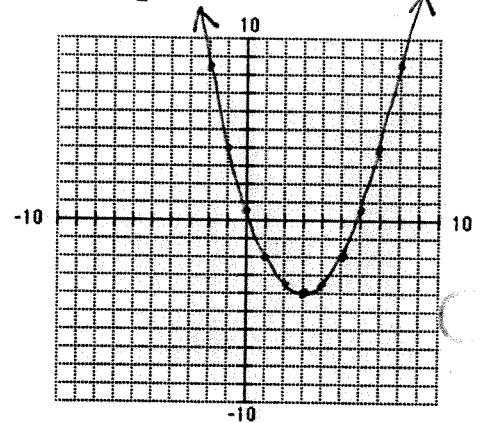
D: $(-\infty, \infty)$ R: $(-\infty, \infty)$

14. $y = -2(x+3)^2$ $V(-3, 0)$



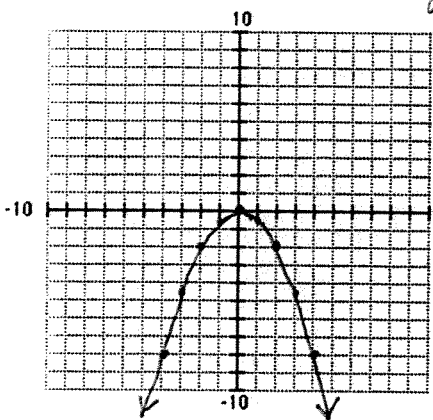
D: $(-\infty, \infty)$ R: $(-\infty, 0]$

15. $y = \frac{1}{2}(x-3)^2 - 4$ $V(3, -4)$



D: $(-\infty, \infty)$ R: $[-4, \infty)$

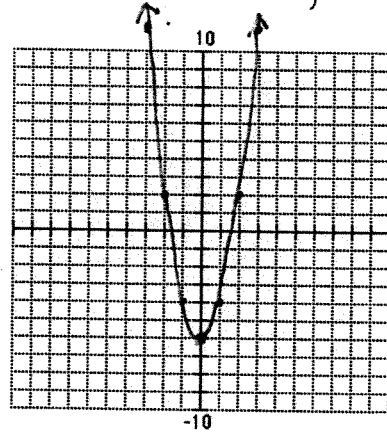
16. $y = -\frac{1}{2}x^2$ $V(0, 0)$



D: $(-\infty, \infty)$ R: $(-\infty, 0]$

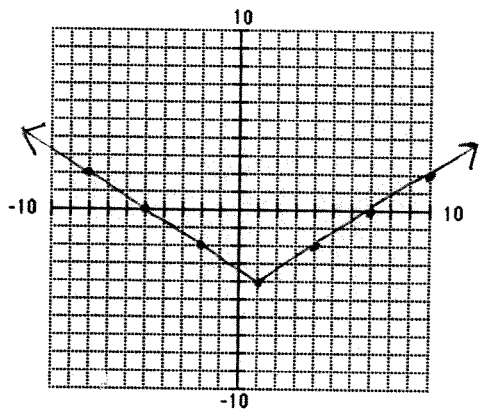
$a = -\frac{1}{2}$
 $|a| = \frac{1}{2}$
 $3a = -\frac{3}{2}$
 $5a = -\frac{5}{2}$
 $7a = -\frac{7}{2}$
 $9a = -\frac{9}{2}$
 etc...

17. $y = 2x^2 - 6$ $V(0, -6)$



D: $(-\infty, \infty)$ R: $[-6, \infty)$

18. $y = \frac{2}{3}|x-2| - 4$ $V(2, -4)$



D: $(-\infty, \infty)$ R: $[4, \infty)$