Name: Key

Graphing Quadratics Review

Write the quadratic function in standard form. Determine whether the graph of the function opens up or down.

1. $y = 3 - 2x - x^2$

$y = -x^2 - 2x + 3$

down

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

$y = 3x^2 + 3x - 4$

up

3. $y = -5 - 4x^2$

$y = -4x^2 - 5$

down

Find the vertex and axis of symmetry of the parabola.

4. $y = (x-4)^2 + 8$

v: (4, 8)

a.o.s.: $x = 4$

5. $y = -3x^2 + x$

v: $\left(\frac{1}{6}, \frac{1}{12}\right)$

a.o.s.: $x = \frac{1}{6}$

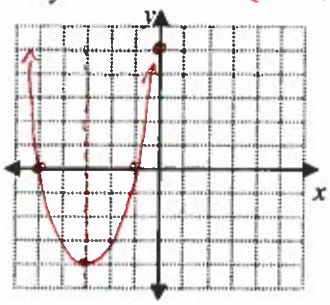
6. $y = (x+6)(x+1)$

v: $\left(-\frac{7}{2}, -\frac{25}{4}\right)$

a.o.s.: $x = -\frac{7}{2}$

For 7 -15, graph the quadratic function.

7. $y = x^2 + 6x + 5$ $(x+5)(x+1)$



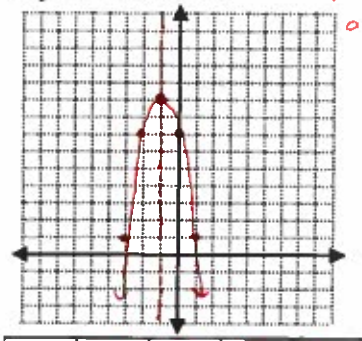
x-int: -5, -1

v: (-3, -4)

x	-4	-5		
y	-3	-3		

8. $y = -2x^2 - 4x + 7$

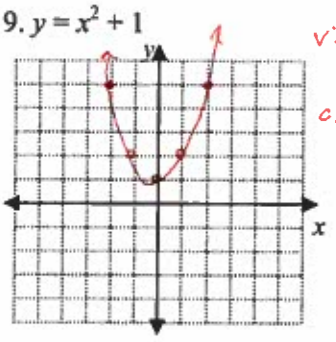
v: (-1, 9)



a.o.s.: $x = -1$

x	-2	0	-3	1
y	7	7	1	1

9. $y = x^2 + 1$

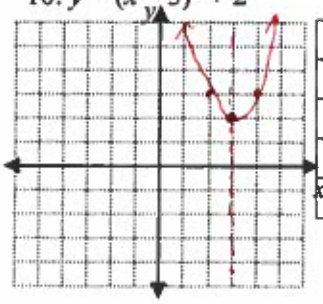


v: (0, 1)

a.o.s. $x = 0$

x	-1	1	-2	2
y	2	2	5	5

10. $y = (x-3)^2 + 2$

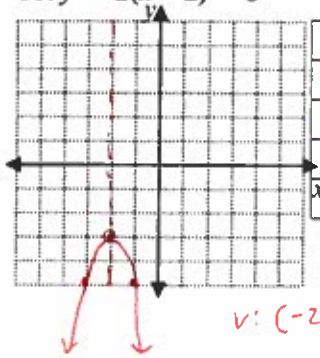


x	y
2	3
4	3
1	6
5	6

v: (3, 2)

a.o.s. $x = 3$

11. $y = -2(x+2)^2 - 3$

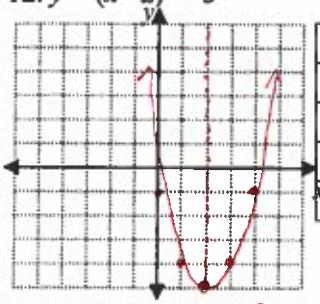


x	y
-1	-5
-3	-5

v: (-2, -3)

a.o.s.: $x = -2$

12. $y = (x-2)^2 - 5$

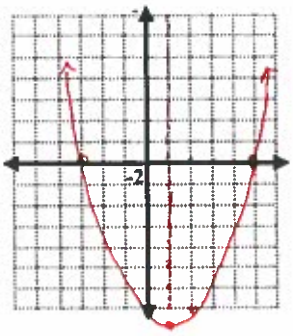


x	y
1	4
3	4
0	-1
4	-1

v: (2, -5)

a.o.s.: $x = 2$

13. $y = (x + 3)(x - 5)$



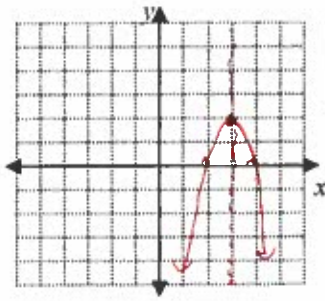
x	y
0	15
2	15

x-int: 5, -3

a.o.s.: x = 1

v = (1, -16)

14. $y = -2(x - 2)(x - 4)$



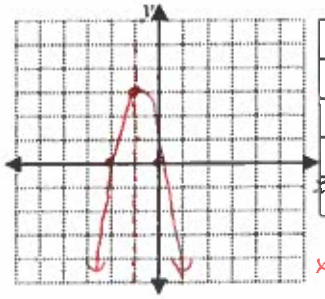
x	y
2	0
4	0
1	-6
5	-6

x-int: 2, 4

a.o.s. x = 3

v = (3, 2)

15. $y = -3x(x + 2)$



x	y
-3	-9
1	-9

x-int: 0, -2

a.o.s.: x = -1

v = (-1, 3)

Factoring review!

16. Factor: $x^2 + 4x - 21$

(x + 7)(x - 3)

17. Factor: $x^2 - 10x + 24$

(x - 6)(x - 4)

18. Solve: $r^2 - 49 = 0$

±7

19. Solve: $-15 = x^2 + 8x$

-3, -5

20. Factor: $3x^2 - 8x + 5 = 0$

1, 5/3

21. Solve: $8m^2 + 8m + 2 = 0$

-1/2