Review Stations

1. Find a buddy.
2. Move to all 9 stations & complete all 31 questions.

Adapted from Various Sources

Station 1

$$y = 2x^2 - 8x + 6$$

1. Open up or down?
2. Vertex?
3. Axis of symmetry?
4. x-intercepts?

Station 1

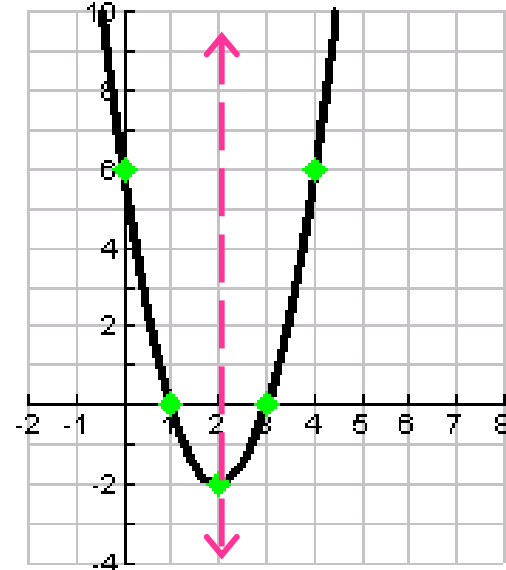$$y = 2x^2 - 8x + 6$$

1. Open up or down? ↑
2. Vertex? (2, -2)
3. Axis of symmetry? x = 2
4. x-intercepts? (1,0) (3,0)
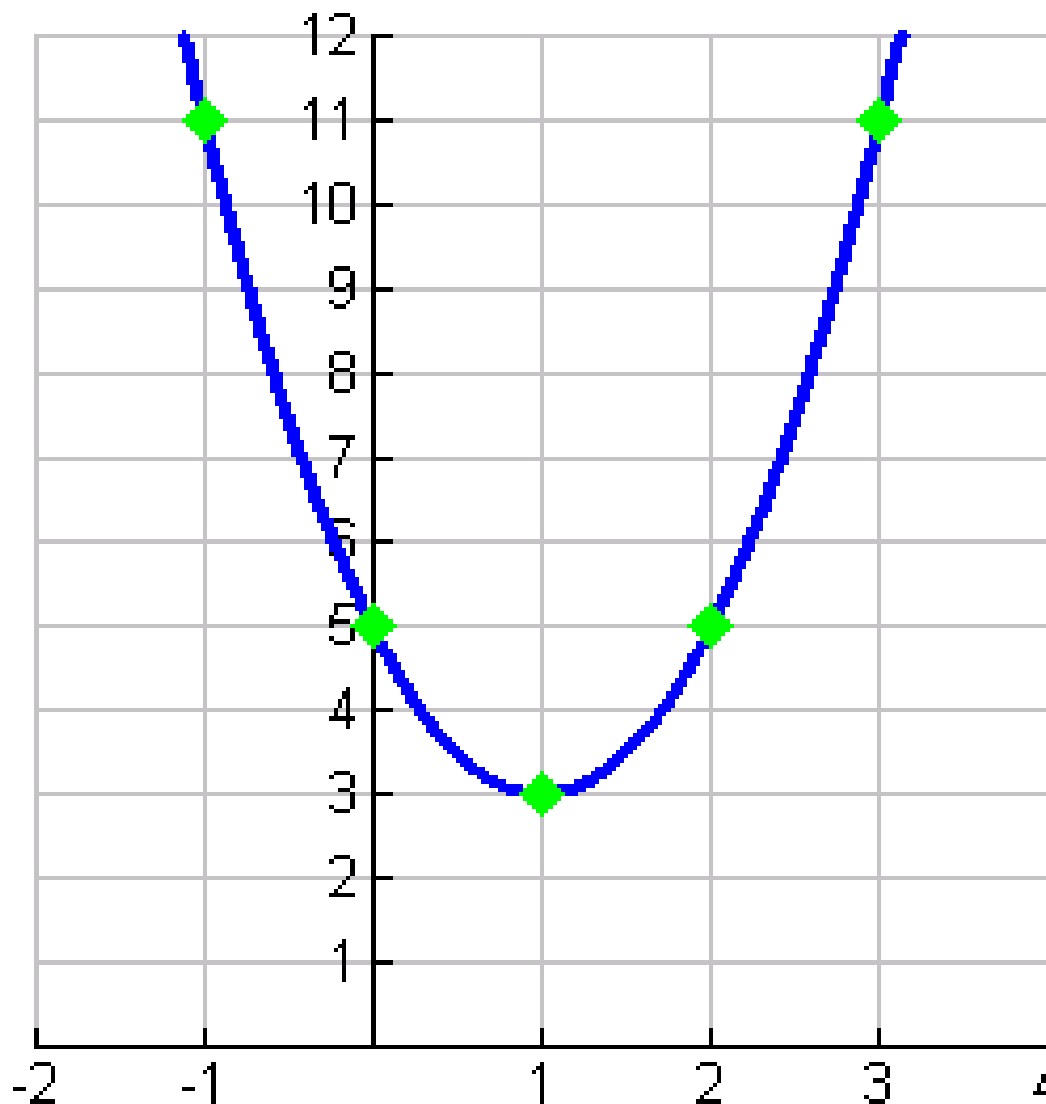
$$x = \frac{-(-8)}{2(2)} = \frac{8}{4} = 2$$

$$y = 2(2)^2 - 8(2) + 6$$

$$y = 8 - 16 + 6 = -2$$

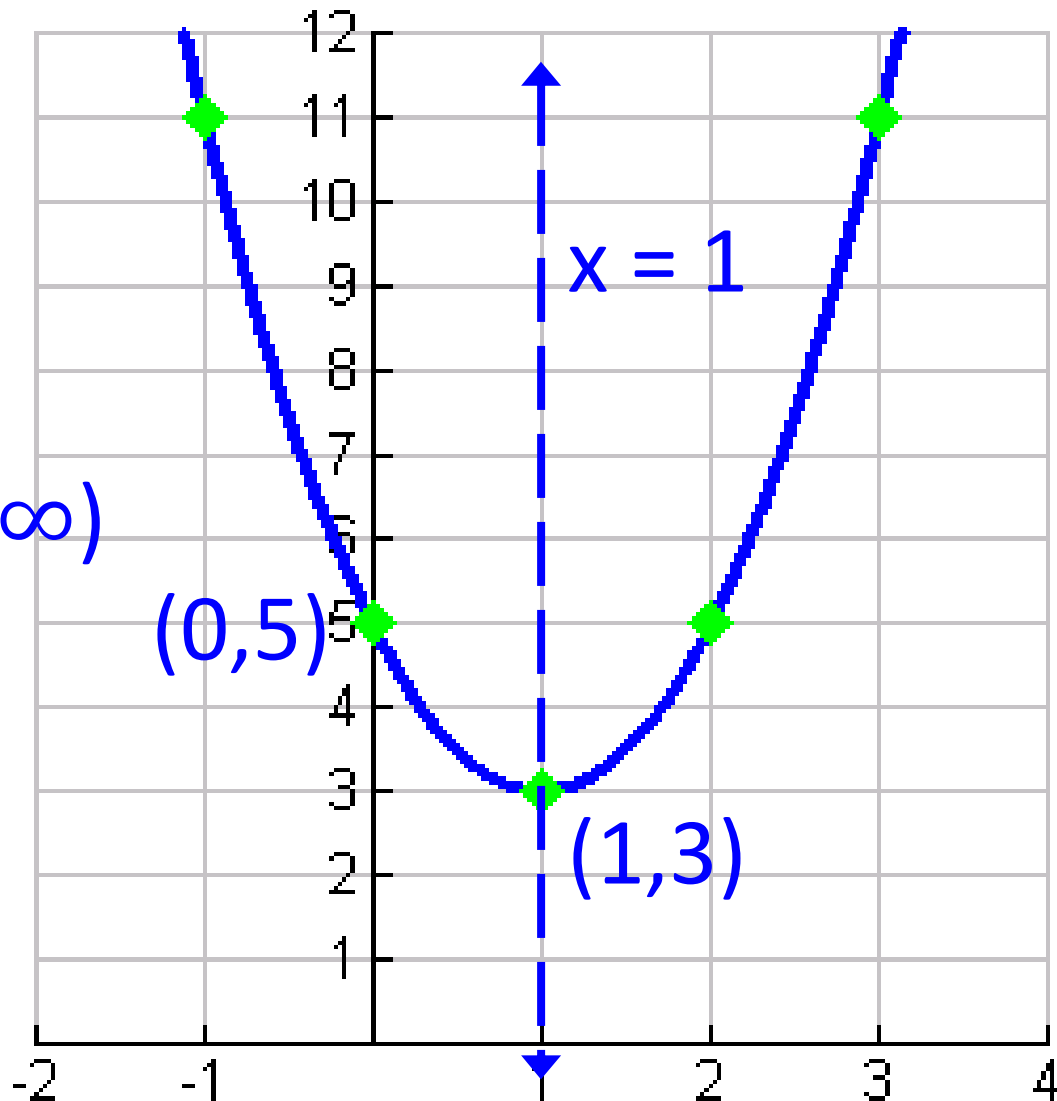# Station 2

5. Vertex?
6. Axis of symmetry?
7. Domain?
8. Range?
9. y-intercept?
10. x-intercepts?

Adapted from Various Sources

Station 2

5. Vertex?
6. Axis of symmetry?
7. Domain? $(-\infty, \infty)$
8. Range? $[3, \infty)$
9. y-intercept?
10. x-intercepts?
    none

$(0,5)$ $x = 1$ $(1,3)$

Adapted from Various Sources

Station 3

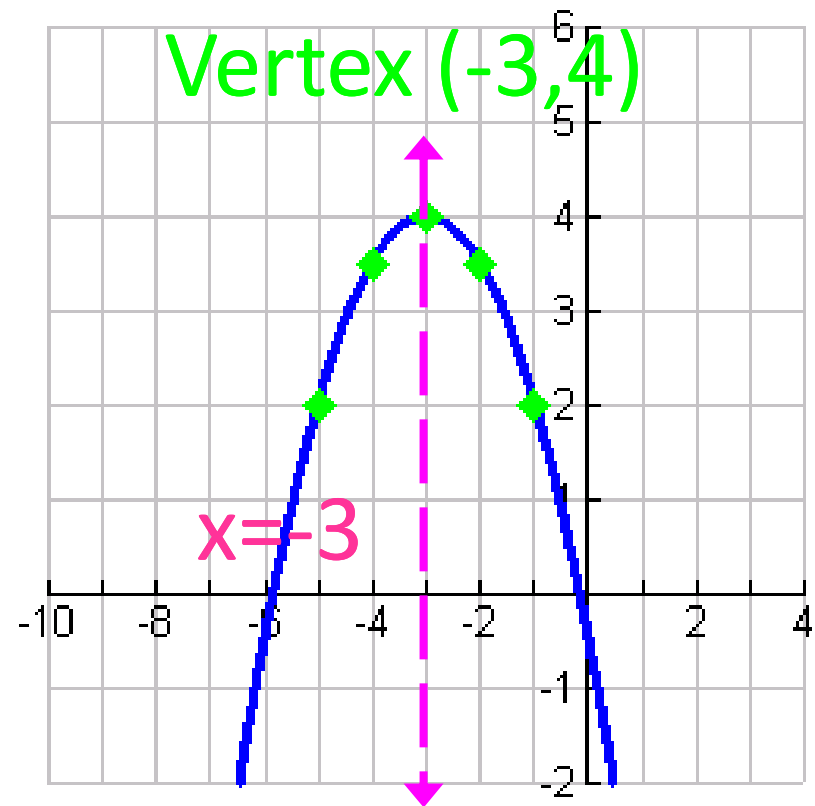$$y = -\tfrac{1}{2}(x+3)^2 + 4$$

11. Describe all
transformations.

Station 3
$$y = -\tfrac{1}{2}(x+3)^2 + 4$$

11. Describe all transformations.

- **Reflection across the x-axis**
- **Vertical shrink by a factor of ½**
- **← 3**
- **↑ 4**

Vertex (-3,4)

x=-3

Adapted from Various Sources

Station 4
Solve for x.

12. $2x^2 + 5x = -3$

13. $7x = 2x^2$

14. $5x^2 = 25x + 120$

Station 4
Solve for x.

12. $2x^2 + 5x = -3$ **½, -3**

13. $7x = 2x^2$ **$^7/_2$, 0**

14. $5x^2 = 25x + 120$ **8, -3**

Station 5

Solve for x.

15. $6x^2 + 7x = 3$

16. $4x = 9x^2$

17. $6x^2 = 24x + 30$

Station 5
Solve for x.

15. $6x^2 + 7x = 3$ $\frac{1}{3}, -\frac{3}{2}$

16. $4x = 9x^2$ $\frac{4}{9}, 0$

17. $6x^2 = 24x + 30$ $5, -1$

Station 6
Solve for x.

18. $6x^2 - 5x + 3 = 0$

19. $x^2 + 12x + 5 = 0$

20. $3x^2 = 7x + 20$

Station 6

Solve for x.

18. $6x^2 - 5x + 3 = 0$ $$\dfrac{5 \pm i\sqrt{47}}{12}$$

19. $x^2 + 12x + 5 = 0$ $-6 \pm \sqrt{31}$

20. $3x^2 = 7x + 20$ $-\dfrac{5}{3}, 4$

Adapted from Various Sources

Station 7
Solve for x.

21. $4x^2 - 5x + 2 = 0$

22. $x^2 + 10x + 3 = 0$

23. $2x^2 + 2x = 15$

Adapted from Various Sources

Station 7

Solve for x.

21. $4x^2 - 5x + 2 = 0$ $\dfrac{5 \pm i\sqrt{7}}{8}$

22. $x^2 + 10x + 3 = 0$ $-5 \pm \sqrt{22}$

23. $2x^2 + 2x = 15$ $\dfrac{-1 \pm \sqrt{31}}{2}$

Station 8

Find the value of c that makes each trinomial a perfect square.

24. $x^2 - 60x + c$

25. $x^2 + 5x + c$

26. $x^2 - 80x + c$

27. $x^2 + x + c$

Adapted from Various Sources

Station 8

Find the value of c that makes each trinomial a perfect square.

24. $x^2 - 60x + c$ **900**

25. $x^2 + 5x + c$ **25/4**

26. $x^2 - 80x + c$ **1600**

27. $x^2 + x + c$ **1/4**

Station 9

Find the discriminant & describe the nature of the roots.

28. $4x^2 - 3x + \frac{9}{16} = 0$

29. $5x^2 = 4x + 6$

30. $6x^2 - 2x - 4 = 0$

31. $4x^2 - 8x = -4$

Adapted from Various Sources

Station 9

Find the discriminant & describe the nature of the roots.

28. $4x^2 - 3x + \frac{9}{16} = 0$ **0; 1 real root**

29. $5x^2 = 4x + 6$ **136; 2 real root**

30. $6x^2 - 2x - 4 = 0$ **100; 2 real root**

31. $4x^2 - 8x = -4$ **0; 1 real root**