

Questions on 2.7HW? 2.6 HW is due today...and we are quizzing.

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1.  $5\frac{3}{4}$  and  $6\frac{1}{3}$       2.  $-2\frac{1}{4}$  and  $-1\frac{1}{2}$       3.  $\frac{1}{4}$  and  $\frac{5}{8}$       4.  $\sqrt{3}$  and  $\sqrt{5}$

5. 4 and  $\sqrt{23}$       6.  $-9\frac{3}{4}$  and  $-8.5$       7.  $\sqrt{\frac{1}{4}}$  and  $\sqrt{\frac{4}{9}}$       8.  $\sqrt{13}$  and  $\sqrt{14}$

**Set**

Topic: Factoring quadratics

$\frac{\sqrt{1}}{\sqrt{4}} = \frac{1}{2} = 0.5000\dots$   
 $\frac{\sqrt{4}}{\sqrt{9}} = \frac{2}{3} = 0.6666\dots$

The area of a rectangle is given in the form of a trinomial expression. Find the equivalent expression that shows the lengths of the two sides of the rectangle.

9.  $x^2 + 9x + 8$       10.  $x^2 - 6x + 8$       11.  $x^2 - 2x - 8$       12.  $x^2 + 7x - 8$

13.  $x^2 - 11x + 24$       14.  $x^2 - 14x + 24$       15.  $x^2 - 25x + 24$       16.  $x^2 - 10x + 24$

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5. 4 and  $\sqrt{23}$       6.  $-9\frac{3}{4}$  and  $-8.5$       7.  $\sqrt{\frac{1}{4}}$  and  $\sqrt{\frac{4}{9}}$       8.  $\sqrt{13}$  and  $\sqrt{14}$

4.000  
4.1, 4.2, 4.3

$\sqrt{23} = 4.7958$

Set

Topic: Factoring quadratics

The area of a rectangle is given in the form of a trinomial expression. Find the equivalent expression that shows the lengths of the two sides of the rectangle.

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13.  $x^2 - 11x + 24$       14.  $x^2 - 14x + 24$       15.  $x^2 - 25x + 24$       16.  $x^2 - 10x + 24$

17.  $x^2 - 2x - 24$       18.  $x^2 - 5x - 24$       19.  $x^2 + 5x - 24$       20.  $x^2 - 10x + 25$

8.50 x 11.00 in

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The area of a rectangle is given in the form of a trinomial expression. Find the equivalent expression that shows the lengths of the two sides of the rectangle.

9. $x^2 + 9x + 8$ $(x+8)(x+1)$	10. $x^2 - 6x + 8$ $(x-2)(x-4)$	11. $x^2 - 2x - 8$ $(x-4)(x+2)$	12. $x^2 + 7x - 8$ $(x+8)(x-1)$
13. $x^2 - 11x + 24$	14. $x^2 - 14x + 24$	15. $x^2 - 25x + 24$	16. $x^2 - 10x + 24$
17. $x^2 - 2x - 24$	18. $x^2 - 5x - 24$	19. $x^2 + 5x - 24$	20. $x^2 - 10x + 25$
21. $x^2 - 25$ $x^2 + 0x - 25$ $(x+5)(x-5)$	22. $x^2 - 2x - 15$	23. $x^2 + 10x - 75$	24. $x^2 - 20x + 51$
25. $x^2 + 14x - 32$	26. $x^2 - 1$	27. $x^2 - 2x + 1$	28. $x^2 + 12x - 45$

SECONDARY II // MODULE 2

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Graph each parabola. Include the vertex and at least 3 accurate points on each side of the axis of symmetry. Then describe the transformation in words.

29.  $f(x) = x^2$

Description: *not transformed*

30.  $g(x) = x^2 - 3$

Description: *translated down 3 units*

31.  $h(x) = (x - 2)^2$

32.  $b(x) = -(x + 1)^2 + 4$

## Quadratics Quiz #3: Completing the Square

The following quadratic function,  
 $f(x) = x^2 + 6x + 4$  is not a perfect square.

Answer the following:

$$x^2 + 6x + 4 = 0$$

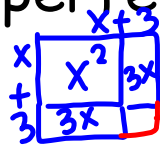
$$+5 \quad +5$$

$$x^2 + 6x + 9 = 5$$

$$(x+3)(x+3) = 5$$

$$(x+3)^2 = 5$$

$$(x+3)^2 - 5 = 0$$



1) What must be added or subtracted to make it a perfect square?

2) What is the vertex form for the function after you have completed the square?

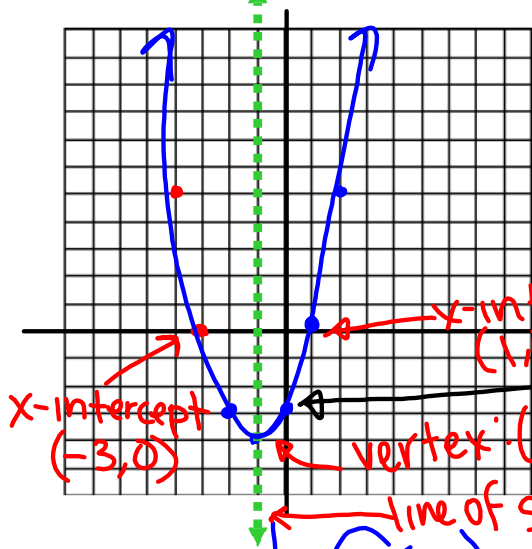
## 2.8 Lining Up Quadratics

### A Practice Understanding Task



Graph each function and find the vertex, the y-intercept and the x-intercepts. Be sure to properly write the intercepts as points.

1.  $y = (x - 1)(x + 3)$



Line of Symmetry  $x = -1$

Vertex  $(-1, -4)$

x-intercepts  $(-3, 0)$   $(1, 0)$

y-intercept  $(0, -3)$

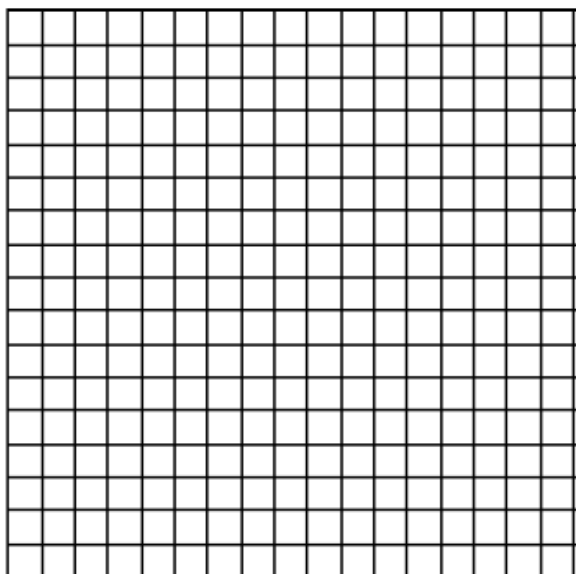
y-intercept:  $(0, -3)$

vertex:  $(-1, -4)$

line of symmetry:  $x = -1$

x	f(x)
-2	-3
-1	-4
0	-3
1	0
2	5
3	12

2.  $f(x) = 2(x - 2)(x - 6)$



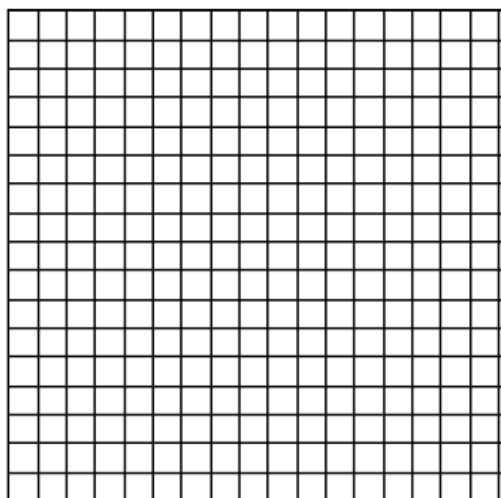
Line of Symmetry \_\_\_\_\_

Vertex \_\_\_\_\_

 $x$ -intercepts \_\_\_\_\_ $y$ -intercept \_\_\_\_\_



3.  $g(x) = -x(x + 4) = -x \cdot (x + 4)$



Line of Symmetry \_\_\_\_\_

Vertex \_\_\_\_\_

x-intercepts \_\_\_\_\_

y-intercept \_\_\_\_\_

4. Based on these examples, how can you use a quadratic function in factored form to:
- Find the line of symmetry of the parabola?
  - Find the vertex of the parabola?
  - Find the x-intercepts of the parabola?
  - Find the y-intercept of the parabola?
  - Find the vertical stretch?

Homework

Finish 2.8 "Ready, Set, Go"