

## Lesson 2.7, Factor the following

14. Optima's quilt shop has received a number of orders that are given as rectangular areas using a trinomial expression. Find the equivalent expression that shows the lengths of the two sides of the rectangles.

a.  $x^2 + 9x + 18$

$(x+3)(x+6)$

b.  $x^2 + 3x - 18$

$(x+6)(x-3)$

c.  $x^2 - 3x - 18$

dylan  $(x-6)(x+3)$

d.  $x^2 - 9x + 18$

hannah  $(x-6)(x-3)$

e.  $x^2 - 5x + 4$

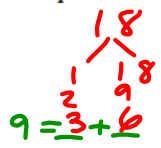
charlie  $(x-1)(x-4)$

f.  $x^2 - 3x - 4$

jna  $(x+1)(x-4)$

g.  $x^2 + 2x - 15$

mathew  $(x+5)(x-3)$



extra example

$3x^2 - 15x + 12 = 3(x^2 - 5x + 4)$

$3(x-1)(x-4)$

$\checkmark -1 -4$   
 $? 2$

15. Write an explanation of how to factor a trinomial in the form:  $x^2 + bx + c$ .

Sep 27-10:53 AM

### Part I: Double Matching

Match each standard form equation with its equivalent vertex form equation in column A and its factored form equation from column B. (2 points each) quiz review

Column A	Column B	Standard Form (Question)	Vertex Form (Column A)	Factored Form (Column B)
<u>d</u>	<u>b</u>	1) $y = x^2 + 2x - 24$	a) $y = (x-5)^2 + 1$	a) $y = (x-4)(x-6)$
_____	_____	2) $y = x^2 + 10x + 24$	b) $y = (x-5)^2 - 1$	<u>b</u> ) $y = (x-4)(x+6)$
_____	_____	3) $y = x^2 - 2x - 24$	c) $y = (x-1)^2 - 25$	c) $y = (x-3)(x-8)$
_____	_____	<u>4</u> ) $y = x^2 - 10x + 24$	<u>d</u> ) $y = (x+1)^2 - 25$	d) $y = (x+3)(x+8)$
			e) $y = (x+1)^2 + 25$	e) $y = (x+4)(x+6)$
			f) $y = (x+5)^2 - 1$	f) $y = (x+4)(x-6)$

$x^2 + 2x - 24$   
 $+1 -25$

$(x^2 + 2x + 1) - 24 - 1$

$(x+1)^2 - 25$

4)  $x^2 - 10x + 24 \rightarrow (x^2 - 10x + 25) + 24 - 25$

$(x-5)^2 - 1$

$(x-5)^2 - 1$

$x^2 + 2x - 24$   
 $(x-4)(x+6)$

$24$   
 $-12$   
 $-8$   
 $-4$

$(x-5)^2 - 1$

Sep 27-1:25 PM

SECONDARY MATH II // MODULE 2  
STRUCTURES OF EXPRESSIONS - 2.7

2.7

READY, SET, GO!

Name

Period

Date

**READY**

Topic: Exploring the density of the number line.

Find three numbers that are between the two given numbers.

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  $\sqrt{14}$

Sep 27-10:54 AM

**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.

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.  $x^2 - 10x + 24$

$(x-3)(x-8)$   
-11 = -3 - 8  
24 = 3 \* 8

17.  $x^2 - 2x - 24$

18.  $x^2 - 5x - 24$

19.  $x^2 + 5x - 24$

20.  $x^2 - 10x + 25$

21.  $x^2 - 25$

22.  $x^2 - 2x - 15$

23.  $x^2 + 10x - 75$

24.  $x^2 - 20x + 51$

25.  $x^2 + 14x - 32$

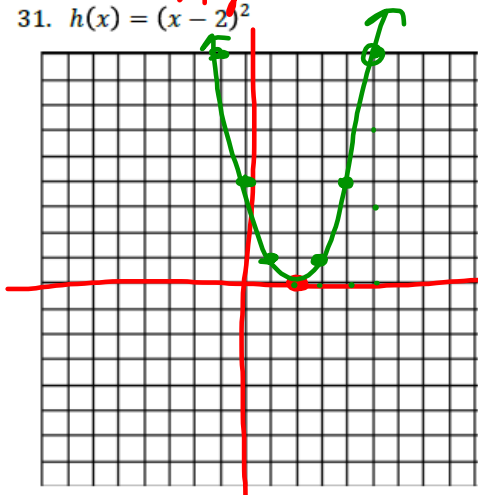
26.  $x^2 - 1$

27.  $x^2 - 2x + 1$

28.  $x^2 + 12x - 45$

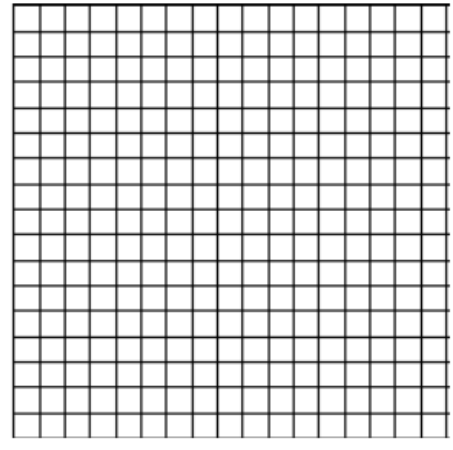
Sep 27-10:54 AM

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



Description: *right 2*

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



Description:

1	1
2	4
3	9