

First Show What You Know 5.2

Today's Learning Goal(s):

By the end of the class, I will be able to:

- a) factor trinomials of the form $ax^2 + bx + c$

Yesterday's homework

pp. 240-241 #3cf, 4cf, 5cf, 6b, 7cef, 8d, 9d, 11d

No Handout Today or Tomorrow; see website.

p240 66

$$A=14$$

$$\boxed{A=14}$$

$$A = x^2 - 15x + 50$$

$$\begin{aligned} & x^2 - 15x + 50 \\ &= (x-5)(x-10) \\ &= \ell \cdot w \end{aligned}$$

$$\begin{aligned} \text{if } x &= 15 \text{ cm} \\ \ell &= x-5 & w &= x-10 \\ &= 15-5 & &= 15-10 \\ &= 10 \text{ cm} & &= 5 \text{ cm} \end{aligned}$$

8d) $x^2 + bx - 10$

if $b = -9$

$$(x-10)(x+1)$$

if $b = -3$

$$(x-5)(x+2)$$

11d) $x^2 - 6xy - 16y^2$

$$= (x+2y)(x-8y)$$

5f) $r^2 + 2r - 6$

$$= (r-2)(r+3)$$

DNF

$$-1 + 6 = 5$$

$$-2 + 3 = 1$$

MPM 2DI 5.5 Factor Quadratic Expressions of the Form $ax^2 + bx + c$ (Day 1)

Warm-up: Expand and simplify.

Date: Nov. 15/16

a) $(2x+3)(3x+5)$
 $= 6x^2 + 10x + 9x + 15$
 $= 6x^2 + 19x + 15$

b) $(x+3)(6x+5)$
 $= 6x^2 + 5x + 18x + 15$
 $= 6x^2 + 23x + 15$

c) $(3x-5)(2x+3)$
 $= 6x^2 + 9x - 10x - 15$
 $= 6x^2 - x - 15$

d) $(2x-5y)(x-3y)$
 $= 2x^2 - 6xy - 5xy + 15y^2$
 $= 2x^2 - 11xy + 15y^2$

Ex.1 Factor fully, if possible. **Method 1:** The "A,C Chart"

a) $6x^2 + 19x + 15$

	a		c		
$= (2x+3)(3x+5)$	1 6		1 15	2 5	(2x+3)
	2 3 ✓		3 5 ✓	3 3	(3x+5)
				$= 6+15$	$= 10+9$
				$= 21$	$= 19$

b) $6x^2 - x - 15$

$= (2x+3)(3x-5)$	1 6		1 15	2 5	(2x+3)
	2 3		3 5	3 3	(3x-5)
				$= 6-15$	$= 10-9$
				$= -9$	$= 1$

MPM 2DI 5.5 Factor Quadratic Expressions of the Form $ax^2 + bx + c$ (Day 1)

Date: _____

Ex.1 Factor fully, if possible. **Method 2:** The "Australian Method"

a) $6x^2 + 19x + 15$

6×15

b) $6x^2 - x - 15$

$$= \frac{(6x+9)(6x+10)}{6} = 90$$

$$= \frac{(6x+9)(6x-10)}{6}$$

$$= \frac{3(2x+3) \cdot 2(3x+5)}{6}$$

$$= \frac{3(2x+3) \cdot 2(3x-5)}{6}$$

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

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



Ex.2 Factor fully, if possible.

a) $5x^2 - 23x + 12$

$$= \frac{(5x-3)(5x-20)}{5}$$

$$= \frac{(5x-3)\cancel{5}(x-4)}{\cancel{5}}$$

b) $10x^2 + 39x + 14$

$$= (5x+2)(2x+7)$$

c) $6x^2 + 13xy - 15y^2$

$$= (6x-5y)(x+3y)$$

d) $10x^2 - 33x - 7$

$$= (5x+2)(2x-7)$$

Today's practice: p.246 #2, 3, 4

Enrichment: p. 247 #17, 18