

Before we begin, are there any questions from last day's work?

Correct 3.1.1 from previous lesson

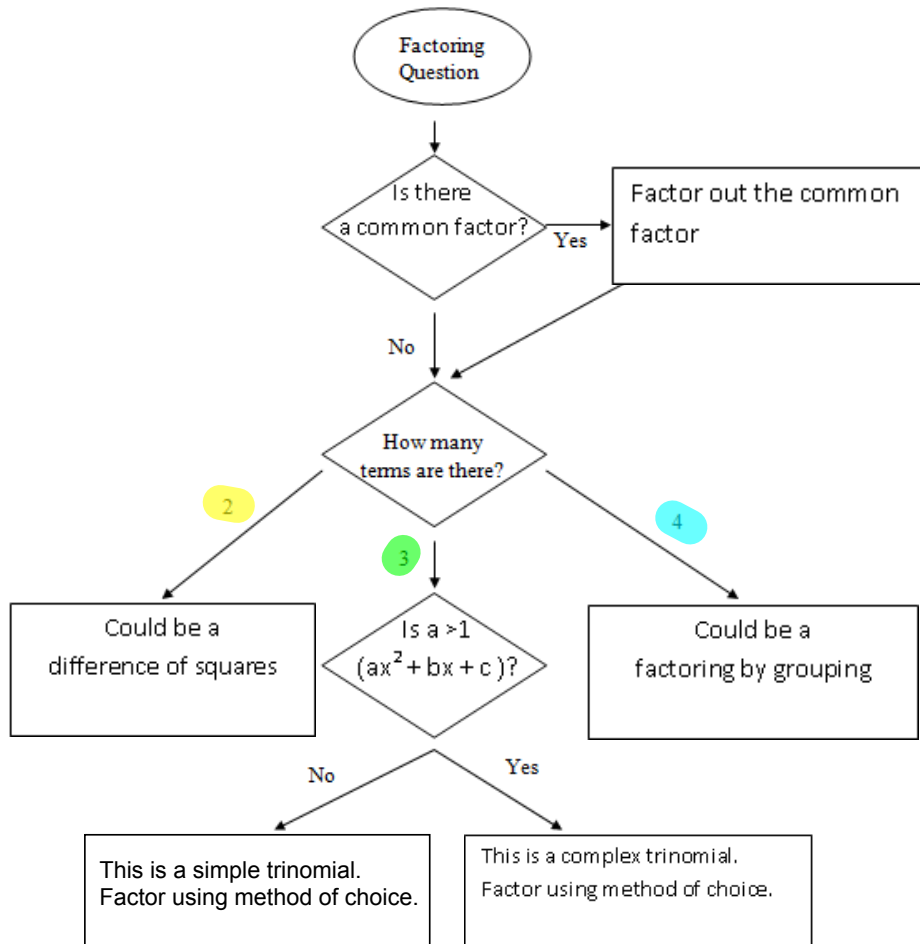
Check "Part C", and Homework 3.1.3

Today's Learning Goal(s):

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

- a) factor any polynomial using common factoring first.
- b) factor a binomial which is a difference of squares.
- c) factor various trinomials.
- d) use grouping and the methods above to factor cubic and quartic expressions.

3.2.2: Factoring Strategies

Date: Mar. 21/18Factoring is the process where a polynomial expression is written as a product of other algebraic expressions.

Factoring is used to solve polynomial equations and to graph polynomial function
 Factoring will be used in this unit to accomplish these tasks.

3.2.3: Let's Practice Factoring

Date: Mar. 21/18

1. Factor by common factoring.

a) $a^3b^2 + ab^3 = ab^2(a^2 + b)$ b) $25x^8 - 30x^5 + 35x = 5x(5x^7 - 6x^4 + 7)$ c) $7x(x+2) - 5(x+2) = (x+2)(7x-5)$

2. Factor as a difference of squares.

a) $y^2 - 81 = (y-9)(y+9)$ b) $9m^2 - 1 = (3m+1)(3m-1)$ c) $169x^2 - 144z^2 = (13x''+12z)(13x''-12z)$

3. Factor as a simple trinomial.

a) $t^2 + 3t - 10 = (t-2)(t+5)$ b) $x^2 - 10x - 24 = (x-12)(x+2)$

1 - 24
2 - 12
3 - 8
4 - 6
5 - 4
6 - 2

c) $x^2 - 8x + 16 = (x-4)(x-4) = (x-4)^2$ d) $x^4 + 6x^2 + 8 = (x^2+4)(x^2+2)$

4. Factor.

a) $3m^2 - m - 30$ p: -90 s: -1

$= (3m-10)(3m+9)$

$= (3m-10) \cdot 3(m+3)$

$= (3m-10)(m+3)$

c) $7x^2 + x - 8$ p: -56 s: 1

$= 7x^2 + 8x - 7x - 8$

$= 7x(7x+8) - 1(7x+8)$

$= (7x+8)(x-1)$

b) $8m^2 - 5m - 3 = (m-1)(8m+3)$

a=8	c=3
1 8	1 3
2 4	

2 - 3	2 - 1
4 1	4 3
= 2 - 12 = -10	= 6 - 4 = 2

1 - 3	1 - 1
8 1	8 - 3
= 1 - 24 = -23	= -3 + 8 = 5

$(m-1)$
 $(8m+3)$
= 3 - 8
= -5

5. Factor by grouping.

a) $a^2 - 2a + ad - 2d$

$$= a(a-2) + d(a-2)$$

$$= (a-2)(a+d)$$

b) $x^4 - 3x^3 + 2x - 6$

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

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

c) $y^3 + y^2 + 2y + 2$

$$= y^2(y+1) + 2(y+1)$$

$$= (y+1)(y^2+2)$$

6. Factor fully. It might be necessary to use more than one factoring strategy in order to fully factor these polynomial expressions.

a) $x^3 - 3x^2 + 2x$

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

$$= x(x-2)(x-1)$$

b) $2x^4 - 18x^2$

$$= 2x^2(x^2 - 9)$$

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

c) $x^3 - x^2 - 4x + 4$

$$= x^2(x-1) - 4(x-1)$$

$$= (x-1)(x^2 - 4)$$

$$= (x-1)(x+2)(x-2)$$

Homework 3.2.4 & 3.2.5

Factoring Quiz 3.1 on Monday, March 26, 2018

**NB: Tuesday, March 27, 2018 there is a
Grad Meeting during Block B.**