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

Use next page.

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) factor using grouping
e) create a factoring quiz to model the types in quizzes 5.2 and 5.3

You must understand ALL the topics on the following Unit Summary.

Unit 5 Quadratic Expressions ***Unit Summary***

Expanding

5.1, 5.2 Expanding, and Special Products

Factoring

5.3 Common Factoring, including Grouping
5.4 Factoring "simple" trinomials a=1
5.5 Factoring "tricky" trinomials a≠1
5.6 Factoring Difference of Squares **and** Perfect Square Trinomials

Quadratic Equations and Graphing Using Factored Form: $y = a(x-r)(x-s)$

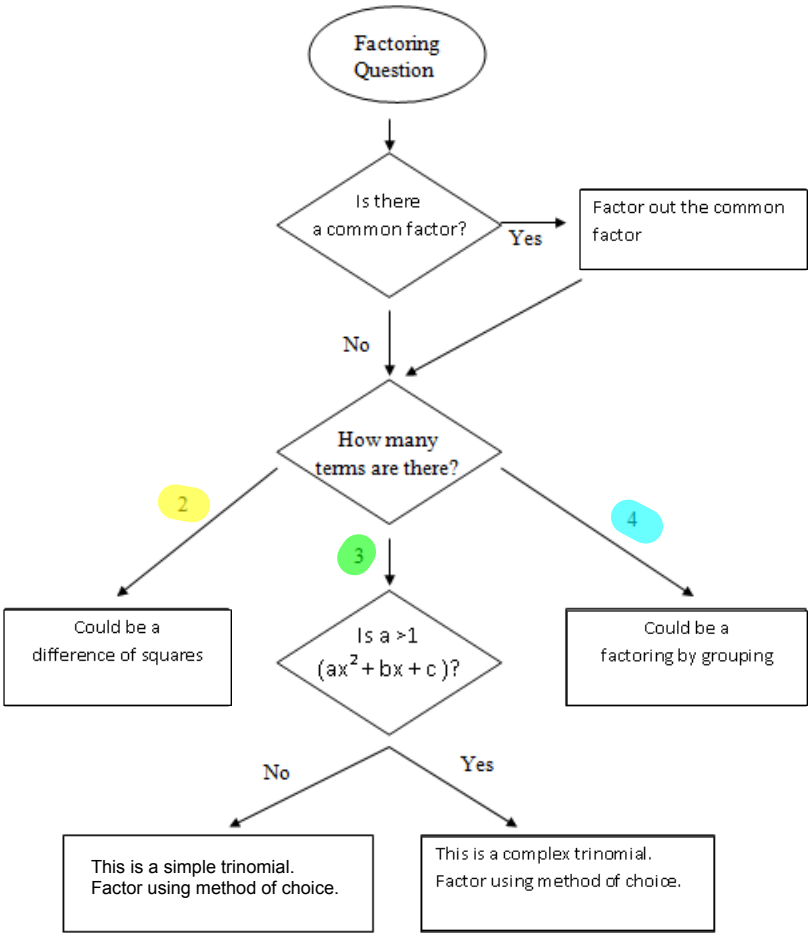
6.2 Solving: If A x B= 0, then...
4.5 Factored form. Determine the equation given...
6.3 Graph from Factored form. Find zeros, axis of symmetry, then vertex.

MPM2DI

Factoring Strategies

Date: _____

Factoring is the process where a __polynomial expression__ is written as a __product__ of other algebraic expressions.



MPM2DI Factoring Review Date: Nov. 25/16

1. Factor by common factoring.

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

$= ab^2(a^2+b)$ $= 5x(5x^7 - 6x^4 + 7)$ $= (x+2)(7x-5)$

2. Factor as a difference of squares.

a) $y^2 - 81$ b) $9m^2 - 1$ c) $169x^2 - 144z^2$

$= (y+9)(y-9)$ $= (3m-1)(3m+1)$ $= (13x+12z)(13x-12z)$

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 = -10
3 -8
4 -6

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) $3m^2 - m - 30$

90
-10 +9

$= (3m-10)(3m+9)$
3
$= \frac{(3m-10)3(m+3)}{3}$
$= (3m-10)(m+3)$

b) $8m^2 - 5m - 3$

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

AC	Ans	diff
8	8	0

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

18
24
2 -1
4 x 3
-4 +6
= 2

13
2 -3
4 x 1
-12 +2
= -10

16/20
$\therefore \frac{8}{20}$

c) $7x^2 + x - 8$

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

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

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

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

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

Today's practice:

(p. 234 #6)

Optional Extra Practice on Website (5.3_E)

If asked to factor, **factor fully.** If it is unfactorable, state this.

pp. 256-257 #2a, 9d, 10a, 14b, 16a, 19e

Worksheet Factoring Practice **ID: 3** #1-18

(All worksheet Answers are posted on the Website)

Monday's practice:

p. 257 #15

pp. 258-259 #2b, 3df, 5, 7cd, 8abc, 10a, 12, 13ab, 15a, 16a

*Mixed Factoring Worksheet **#4** (Infinite Algebra)*

p. 203 #7a (MAKE A GRAPH ON GRID PAPER), 8 (JUST SKETCH IN PART a) – NO GRID REQUIRED)

p. 205 #7 (JUST SKETCH IN PART a) – NO GRID)

p. 316 #4c (NO "CHECK"), 5cd,

7cde (GRAPH ON GRID PAPER)