Any questions from last day's factoring homework?

Worksheet Factoring Practice **ID: 2** #1-18

(All worksheet Answers are posted on the Website)

(see next screen)

Today's Learning Goal(s):

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

a) recognize a quadratic **equation** and solve it.

Factoring Practice **ID: 2** (last day's factoring homework)

Factor each completely.

1) $25v^2 + 5v$ $= 5v(5v+1)$

2) $5r^2 + 9r + 4$

3) $-7p^2 + 13p - 6$ $= -(7p^2 - 13p + 6)$ $= -(7p-6)(p-1)$

4) $2b^2 - 5b - 18$

5) $7x^2 - 3x$

6) $2p^2 - 8$

7) $9 - 24k + 16k^2$ $= 16k^2 - 24k + 9$ $= (4k-3)^2$ $= (3-4k)^2$

8) $m^2 - 4$ $= (m-2)(m+2)$

9) $64n^2 - 100$

Factor the common factor out of each expression.

10) $-18yx^2 + 90y^2 - 63y$ $= -9y(2x^2 - 10y + 7)$

11) $-24a + 42ab^2 - 54a^4b^2$

12) $90x^4 + 80x^4y^4 - 80x^6y$

Factor each completely.

13) $9a^2 - 30ab + 25b^2$

14) $4x^2 - 9y^2$

15) $4a^2 + 20ab + 25b^2$

16) $2a^3 - a^2 + 8a - 4$

17) $2x^3 - 10x^2 + 3x - 15$

18) $n^3 + 3n^2 + 4n + 12$

$$7p^2 - 13p + 6$$

$$= \frac{(7p - 6)(7p - 7)}{7}$$

$$= \frac{(7p - 6)\cancel{7}(p - 1)}{\cancel{7}}$$

$$= (7p - 6)(p - 1)$$

42

1 42

2 21

3 14

4

5

$-6 - 7 = -13$

MPM 2DI 6.2 Solve Quadratic **Equations** Date: Nov. 22/16

Definition: A quadratic equation is any equation that can be expressed as:

$ax^2 + bx + c = 0$ and $a \neq 0$.

Solving a quadratic equation is based on the following concept:

If A x B = 0, then A = 0, or B = 0,

or both factors equal zero.

Some quadratic equations can be solved by **factoring**.

Ex. 1 Solve. Find the roots of each equation.
Note the different forms of the questions

a) $x(x+4)=0$ (A • B)

$x=0$ or $x+4=0$

$x=-4$

b) $(3x-7)(2x+9)=0$ (A • B)

$3x-7=0$ or $2x+9=0$

$3x=7$ $2x=-9$

$\frac{3x}{3}=\frac{7}{3}$ $x=\frac{-9}{2}$

$x=\frac{7}{3}$

c) $x^2+x=12$

$x^2+x-12=0$

$(x-3)(x+4)=0$

$x-3=0$ or $x+4=0$

$x=3$ $x=-4$

d) $4x^2-19x+15=0$

$(x-1)(4x-15)=0$

$x-1=0$ $4x-15=0$

$x=1$ $4x=15$

$\frac{4x}{4}=\frac{15}{4}$

$x=\frac{15}{4}$

Ex. 2 Solve and check.

$x^2 - 13x = 30$

$x^2 - 13x - 30 = 0$

$(x-15)(x+2)=0$

$x=15$ or $x=-2$

Check $x = 15$ and $x = -2$

L.S. $= x^2 - 13x$

$= (15)^2 - 13(15)$

$= 225 - 195$

$= 30$

R.S. $= 30$

$\therefore LS = RS$

$\therefore x = 15$ is a root

Check $x = -2$

L.S. $= x^2 - 13x$

$= (-2)^2 - 13(-2)$

$= 4 + 26$

$= 30$

R.S. $= 30$

$\therefore LS = RS$

$\therefore x = -2$ is a solution.

Today's practice: **Read "Key Concepts" on p. 279**

pp. 279-280 #1adg, 2aef (do not produce a formal "check"), 3adef, 4ab, 5bcd, 6 (HINT: common factor first), 7, 8, 14

p. 241 #14

p. 247 #13

***Enrichment*:** p. 281 #19, 20

SWYK 5.3 Tomorrow on Factoring