Name: _____
Period: ____

Warm-up: ***January 26, 2012***

SHOW YOUR WORK

1. Solve

a) $\frac{2}{5}x - 7 = 13$

$\left(\frac{5}{2}\right)\frac{2}{5}x = 20\left(\frac{5}{2}\right)$

$x = 50$

b) $|2x - 7| = 21$

(+) case

$2x - 7 = 21$

$2x = 28$

$x = 14$

(−) case

$2x - 7 = -21$

$2x = -14$

$x = -7$

2. Simplify

a) $\frac{3}{8} \cdot \frac{12}{1} \cdot \frac{7}{15} = \frac{21}{10}$

b) $\frac{12m^6}{18m^2} m^4$

$\frac{m^6}{m^2} = \frac{mmmmmm}{mm}$

$\frac{2m^4}{3}$

c) $\frac{30x^7}{2} \cdot \frac{4}{5x^6} = 12x$

3. Multiply using the distributive property

a) $3u(u+4)$

$3u^2 + 12u$

$3u(u+4)$

b) $2x^3(5x^2 - 3)$

$10x^5 - 6x^3$

4. Multiply using distributive property:

a) $(2m+7)(m-3)$

$2m^2 - 6m + 7m - 21$

$2m^2 + m - 21$

b) $(3y-5)(y-4)$

$3y^2 - 12y - 5y + 20$

$3y^2 - 17y + 20$

Review 1: Multiply

a) $3(c-4)$

b) $8x(x+2)$

Factor:

12
3·4

1) $5x^2-20x$

$5x(x-4)$

2) $-6y^2+20y$

$-2y(3y-10)$

3) $-4m-32m^3$

$-4m(1+8m^2)$

$-2m(2+16m^2)$

$-4(m+8m^3)$

Review 2: Multiply

a) $(h+3)(h-5)$

$h^2-5h+3h-15$

$h^2-2h-15$

b) $(4k-1)(k-2)$

Factoring by Grouping

Factor:

4) $y^2+3y+4y+12$

$y(y+3)+4(y+3)$

$(y+3)(y+4)$

Answer: _____

5) $5t^2+t+10t+2$

$t(5t+1)+2(5t+1)$

$(5t+1)(t+2)$

Answer: _____

6) $2k^2 - 5k - 12$ Mult: -24 Add: -5

1·24
2·12
3·8
4·6

$2k^2 + 3k - 8k - 12$

$k(2k+3) - 4(2k+3)$

Answer: $(2k+3)(k-4)$

$2k^2 - 8k + 3k - 12$

$2k^2 - 5k - 12$

7) $m^2 - 9m + 20$ Mult: 20 $-5, -4$ Add: -9

$m^2 - 5m - 4m + 20$

$m(m-5) - 4(m-5)$

Answer: $(m-5)(m-4)$

$(m-4)(m-5)$

Factoring by Grouping *(make sure to order the exponents from highest to lowest)*

8) $3u - 4 + u^2$

$u^2 + 3u - 4$ Mult: -4 $-1, 4$ Add: 3

$u^2 - u + 4u - 4$

$u(u-1) + 4(u-1)$

Answer: $(u-1)(u+4)$

OR $(u+4)(u-1)$

9) $x^2 - 16 - 6x$

1·16
4·4
2·8

$x^2 - 6x - 16$ Mult: -16 Add: -6

$x^2 + 2x - 8x - 16$

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

Answer: $(x+2)(x-8)$

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

Homework

Worksheet: Factoring (day 1)