

HW: Factoring by Grouping/2-38 even

Warm up:

Simplify.

$$(3+5)x$$

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

$$2) -8x + 12x = 4x$$

3) Solve for x.

$$ax + bx = c$$

$$\frac{(a+b)x = c}{a+b \quad a+b}$$

$$x = \frac{c}{a+b}; a \neq -b$$

$$\begin{array}{r} a+b=0 \\ -b-b \\ \hline a=-b \end{array}$$

$$4x(\underline{x+5}) + 2(\underline{x+5})$$

$$(x+5)(4x+2)$$

$$2(x+5)(2x+1)$$

$$3(x + y) + z(y + x)$$

$$3(x + y) + z(x + y)$$

$$(3 + z)(x + y)$$

$$3a + za$$
$$a(3 + z)$$

$$e(f - g) - 4(f - g)$$
$$(e - 4)(f - g)$$

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

$$x(-1) \quad x(-1)$$

$$2x(x - y) - y(x - y)$$

$$(x - y)(2x - y)$$

$$(12x^2 - 8xy) - 5(3xz - 2yz)$$

$$4x(3x - 2y) - 5z(3x - 2y)$$

$$(4x - 5z)(3x - 2y)$$

$$\underline{h^2 - hk} + \underline{hr - kr}$$

$$h(h-k) + r(h-k)$$

$$(h-k)(h+r)$$

$$\underline{4z^3 - 6z^2} \ominus \underline{6z + 9}$$

$$(4z^3 - 6z^2) + (-6z + 9)$$

$$2z^2(2z - 3) - 3(2z - 3)$$

$$(2z - 3)(2z^2 - 3)$$

$$\begin{aligned} & -5x(x - 1) - 2(\underline{1 - x}) \quad 1 - x = -x + 1 \\ & -5x(x - 1) + 2(x - 1) \\ & (-5x + 2)(x - 1) \end{aligned}$$

Factor.

1) $7(r - s) + t(s - r)$

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

3) $2u(u - 2v) + v(u - 2v) + (u - 2v)$

4) $(s^2 - 2ps + 2s) - (2s - 4p + 4)$

5) $3hk - 2k - 12h + 8$

6) $h^2k^2 + 4k^2 + h^2k + 4k$

$$1) 7(r - s) + t(s - r)$$

$$7(r-s) - t(r-s)$$

$$(r-s)(7-t)$$

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

$$a+3$$

$$(a+3)(2a-1)$$

$$3) 2u(u - 2v) + v(u - 2v) + (u - 2v)$$

$$(u-2v)(2u+v+1)$$

$$4) (s^2 - 2ps + 2s) - (2s - 4p + 4)$$

$$s(s - 2p + 2) - 2(s - 2p + 2)$$

$$(s - 2p + 2)(s - 2)$$

$$5) \underline{3hk} - 2k - \underline{12h} + 8$$

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

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

$$6) \underline{h^2k^2 + 4k^2} + \underline{h^2k + 4k}$$

$$k^2(h^2+4) + k(h^2+4)$$

$$(h^2+4)(\underline{k^2+k})$$

$$k^2+k \\ k(k+1)$$

$$k(h^2+4)(k+1)$$