

Recap from last week:

1.  $3(x + 2)$

$$= 3(x) + 3(2)$$
$$= 3x + 6$$

2.  $4a(3a - 7)$

$$= 4a(3a) - 4a(7)$$
$$= 12a^2 - 28a$$

3.  $(b + 2)(3b + 4)$

$$= b(3b) + b(4) + 2(3b) + 2(4)$$
$$= 3b^2 + 4b + 6b + 8$$
$$= 3b^2 + 10b + 8$$

4.  $(6r - 4) - (2r + 5)$

$$= 6r - 2r - 4 - 5$$
$$= 4r - 9$$

5.  $(-20w + 2q - 16xy^2) - (10q + 8w - 4xy^2)$

$$= 2q - 10q - 20w - 8w - 16xy^2 + 4xy^2$$
$$= -8q - 28w - 12xy^2$$

6.  $(-18ab + 42c - 7x^2) - (-2ab + 4x^2 - 12c)$

$$= -18ab + 2ab + 42c + 12c - 7x^2 - 4x^2$$
$$= -16ab + 54c - 11x^2$$

Fully factor the following:

7.  $10x + 15$

$$= 5(2x + 3)$$

8.  $32y - 24$

$$= 8(4y - 3)$$

9.  $144x^3 + 24x^2 + 48x$

$$= 24x(6x^2 + x + 2)$$