

Warm-Up:

Multiply.

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

$$x^2 + 4x + 4x + 16 = x^2 + 8x + 16$$

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

$$x^2 - 4x - 4x + 16$$
$$x^2 - 8x + 16$$

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

$$x^2 + 4x - 4x - 16$$
$$x^2 - 16$$

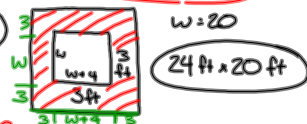
44, 30, 98

30) 

$$A = (x+4)(2x-5)$$
$$2x^2 + 8x - 5x - 20$$
$$2x^2 + 3x - 20$$

44) 

$$(5y-6)(2y+10)$$
$$10y^2 + 50y - 12y - 60$$
$$10y^2 + 38y - 60 \text{ ft}^2$$

48) 

$$A_{\text{Big } \square} - A_{\text{Small } \square}$$
$$(w+10)(w+6) - (w+4)(w) = 300$$
$$w^2 + 6w + 10w + 60 + (w^2 + 4w) = 300$$
$$12w + 60 = 300$$
$$\begin{array}{r} 12w + 60 = 300 \\ -60 \quad -60 \\ \hline 12w = 240 \\ \frac{12w}{12} = \frac{240}{12} \\ w = 20 \end{array}$$

Section 7-7: Special Products

When a binomial is squared, the FOILing process stays the same.

Examples:

Multiply.

$$1) (2x - 3)^2 = (2x - 3)(2x - 3)$$

$$4x^2 - 6x - 6x + 9 = 4x^2 - 12x + 9$$

$$2) (3y + 10)^2 = (3y + 10)(3y + 10)$$

$$9y^2 + 30y + 30y + 100$$

$$9y^2 + 60y + 100$$

Examples:

3) Write an expression for a square with side length $2x + 12$ units.

$$(2x+12)^2$$

$$(2x+12)(2x+12)$$

$$4x^2 + 24x + 24x + 144$$

$$4x^2 + 48x + 144$$

When two binomials are multiplied where the "firsts" and "lasts" are the same, the result has the middle terms canceling out.

$$(x + a)(x - a) = x^2 - \underline{\underline{ax}} + ax - a^2 = x^2 - a^2$$

Examples:

4) $(9x - 4)(9x + 4)$

$$81x^2 + 36x - 36x - 16$$

$$81x^2 - 16$$

Homework: pg. 407-409 #18, 19, 20-38 even, 44-46 all,
53, 54-62 even

Section 7-7 Vocab

Ch. 7 Test March 3/4