

Bell Work 2-19

Simplify each expression.

$$1) (3m)(7m) = 21m^2$$

$$2) (2x)(5x) = 10x^2$$

$$3) 7x + 3x = 10x$$

$$4) -6x - 9x = -15x$$

$$5) -4x + 2x = -2x$$

3 methods can be used to multiply binomials

1. Distributive Property
2. Using a Table
3. FOIL

Distributive Property

$$1) (c-10)(c-5)$$

$$c(c-5) - 10(c-5)$$

$$c^2 \underline{- 5c} - 10c + 50$$

$$c^2 - 15c + 50$$

$$(2) (2x+7)(3x-4)$$

$$\overbrace{2x(3x-4)} + \overbrace{7(3x-4)}$$

$$\begin{array}{r} 6x^2 \underline{- 8x} + 21x - 28 \\ 6x^2 + 13x - 28 \end{array}$$

Your turn

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

$$2x(x+1) \cdot 3(x+1)$$

$$\underline{2x^2 + 2x} \quad -3x - 3$$

$$2x^2 - x - 3$$

Using a Table

$$4) (x-2)(x+6)$$

	x	-2
x	x^2	$-2x$
6	$6x$	-12

Add

$$x^2 + 4x - 12$$

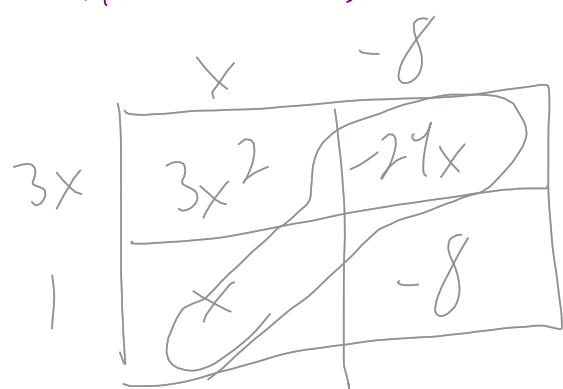
$$5) (3p+4)(2p+5)$$

	$3p$	4
$2p$	$6p^2$	$8p$
5	$15p$	20

$$6p^2 + 23p + 20$$

Your turn

6) $(x-8)(3x+1)$



$$3x^2 - 23x - 8$$

Multiplying Binomials 2-20

FOIL

$$(a + b)(c + d)$$

First a and c

$$ac + ad + bc + bd$$

Outside a and d

Inside b and c

Last b and d

$$7) (a+8)(a-2)$$

$$a(a) + a(-2) + 8(a) + 8(-2)$$

$$a^2 \underbrace{-2a + 8a}_{a^2 + 6a} - 16$$

$$(8) (5m-2)(m+3)$$

$$5m(m) + 5m(3) \cdot 2(m) - 2(3)$$

$$5m^2 + \underbrace{15m - 2m}_{13m} - 6$$

$$5m^2 + 13m - 6$$

Your turn

$$9) (4w+13)(w+2)$$

$$\begin{aligned} & 4w(w) + 4w(2) + 13(w) + 13(2) \\ & \underline{4w^2 + 8w + 13w} + 26 \end{aligned}$$

$$4w^2 + 21w + 26$$

T.O.D.

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