

What's Going On?

Checking In

Minds on

"Whiteboards!"

Action!

Expanding Binomials

Consolidation

Practice!

Learning Goal - I will be able to expand binomials!

Minds on

A Few Rules

$+$ \times $-$ $=$ $-$
 A **positive** times a **negative** is
 always negative

$-$ \times $-$ $=$ $+$
 A **negative** times a **negative** is
 always positive

2 times x is $2x$

x times x is x^2

$$4 \times 4 = 4^2$$

 Minds on

Whiteboards!

1. Open up Sketch Book on your iPad
2. When I show you a question, write the answer and hold it up.

 Minds on

"Whiteboards!"

$$(2)(6)$$

$$= 12$$

Minds on

$$(4)(-3)$$

$$= -12$$

Minds on

$$(-1)(9)$$

$$= -9$$

 Minds on

$$(-2)(-7)$$

$$= +14$$

Minds on

3X

$$(x)(3)$$

$$= 3X$$

Minds on

$$(2x)(4)$$

$$= 8x$$

 Minds on

$$(-5x)(2)$$

$$= -10x$$

Minds on

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

$$= -12x$$

Minds on

$$\begin{aligned} & (-x)(4) \\ &= -4x \end{aligned}$$

 Minds on

$$\begin{aligned} &(-3x)(-5) \\ &= +15x \end{aligned}$$

Minds on

$$(x)(x)$$

$$= x^2$$

Minds on

$$(2x)(x)$$
$$= 2x^2$$

Minds on

$$(2x)(3x)$$

$$= 6x^2$$

 Minds on

$$(-4x)(2x)$$

$$= -8x^2$$

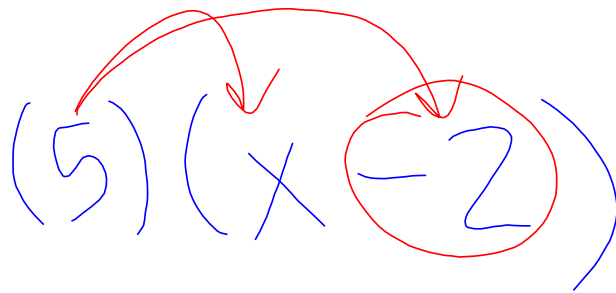
 Minds on

$$\begin{aligned} & (-x)(-3x) \\ & = +3x^2 \end{aligned}$$

Minds on

$$\begin{aligned} & (3)(x + 4) \\ &= (3)(x) + (3)(+4) \\ &= 3x + 12 \end{aligned}$$

$$\begin{array}{r} x + 4 \\ x + 4 \\ \hline 3x + 12 \end{array}$$

$$(5)(x - 2)$$


$$= 5x - 10$$

Minds on

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

Minds on

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

Minds on

$$(2x)(x - 4)$$
$$= 2x^2 - 8x$$

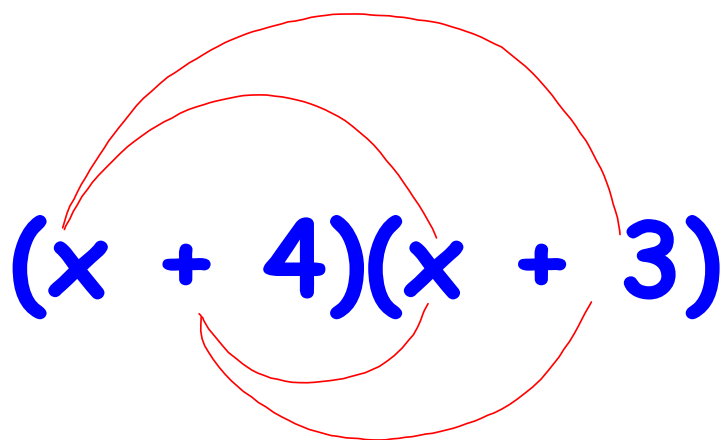
Minds on

$$\begin{aligned} & (-3x)(x - 2) \\ &= -3x^2 + 6x \end{aligned}$$

Minds on

$$\begin{aligned} & (-3x)(2x - 5) \\ &= -6x^2 + 15x \end{aligned}$$

Minds on

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


$$= x^2 + 3x + 4x + 12$$

$$= x^2 + 7x + 12$$

Action!

Expand Using FOIL

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

first **F** outside **O** inside **I** last **L**

$$= x^2 + 3x + 4x + 12$$

collect like terms

$$= x^2 + 7x + 12$$

Action!

Expand Using The Grid

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

	x	$+4$
x	x^2	$4x$
$+3$	$3x$	$+12$

$$= x^2 + 7x + 12$$

Consolidation

Practice!

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

6. $(3x + 3)(x - 5)$

2. $(x + 7)(x + 1)$

7. $(3x - 2)(2x - 5)$

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

8. $(5x - 1)(4x - 2)$

4. $(x + 8)(x - 1)$

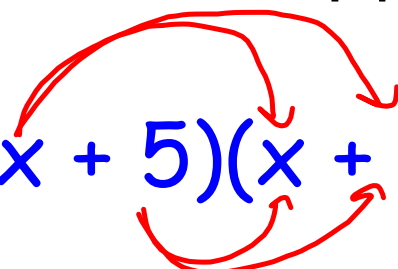
9. $(x - 3)(5x - 2)$

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

10. $(6x - 1)(2x + 2)$

Consolidation

Practice!

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


$$= x^2 + 2x + 5x + 10$$

$$= x^2 + 7x + 10$$

Consolidation

Practice!

2. $(x + 7)(x + 1)$

Consolidation

Practice!

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

Consolidation

Practice!

4. $(x + 8)(x - 1)$

Consolidation

Practice!

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

Consolidation

Practice!

6. $(3x + 3)(x - 5)$

Consolidation

Practice!

$$7. (3x - 2)(2x - 5)$$

$$= 6x^2 - 15x - 4x + 10$$

$$= 6x^2 - 19x + 10$$

Consolidation

Practice!

8. $(5x - 1)(4x - 2)$

Consolidation

Practice!

9. $(x - 3)(5x - 2)$

Consolidation

Practice!

10. $(6x - 1)(2x + 2)$