

## What's Going On?

**Checking In**

**Minds on**

Factoring without Algebra Tiles

**Action!**

Factoring Practice

**Consolidation**

Factoring Practice

**Learning Goal - I will be able to factor standard form equations**

**Checking In**

**Test next Tuesday!**  
**Then... last unit!**

Please RAFT or get caught up  
until 10:30

## Finding Factors

$$y = x^2 - 2x - 24$$

$a$ 
 $b$ 
 $c$

We need to find two numbers (factors) that

bigger #  
is  $\ominus$  →

- add to -2 ( $b$ )
- multiply to -24 ( $c$ )

We need two numbers (one  $\oplus$ , one  $\ominus$ )  
 $\downarrow$   
 $c$  is  $\ominus$

Factors of 24

1	24	x
2	12	x
3	8	x
+4	-6	✓

$$y = (x + 4)(x - 6)$$

## Finding Factors

$$y = x^2 - 9x + 18$$

*(Handwritten annotations: blue circles around -9x and +18, a blue arrow pointing to -9x, and a blue arrow pointing to +18)*

We need to find two numbers (factors) that

- add to -9

- multiply to +18

Both numbers have the same sign (c is ⊕)  
Both are ⊖ (b is ⊖)

Factors of 18

1	18
2	9
-3	-6

$$y = (x - 3)(x - 6)$$

## Keys to Factoring $x^2 + bx + c$

1. If  $c$  is **positive** you need to find
- two positive factors (  $b$  is  $\oplus$  )
- OR
- two negative factors (  $b$  is  $\ominus$  )

2. If  $c$  is **negative** you need to find
- a positive factor and a negative factor
  - the larger factor has the same sign as  $b$

**Action!**  
**Consolidation**

# Factoring Practice

**SEE SOLUTIONS ONLINE**