

# Good Morning!

Today you will need:

- corrected homework
- vocab sheet
- graph spiral
- pencil
- NO calculator

# Warm-Up

In your graph spiral, answer the following question:

WITHOUT using a calculator, what are the common factors of the numbers in the expression below?

$$12x + 24$$

## Distributive Property

A property used to rewrite (factor or expand) expressions involving addition and multiplication:

$$a(b + c) = ab + ac$$

ex:

expanding using Distributive Property

$$2(x + 6)$$

$$2 \cdot x + 2 \cdot 6$$

$$2x + 12$$

factoring using Distributive Property

$$20 + 4x$$

$$4 \cdot 5 + 4 \cdot x$$

$$4(5 + x)$$

## Rewriting Expressions with Distributive Property

You can use the Distributive Property to go between factored form and expanded form.

factored form

expanded form

$$-3(4x + 8) = -12x + -24$$

$$2(n - 6) = 2n - 12$$

Use the Distributive Property to write each expression in expanded form.

1.  $3(4x + 6) =$

2.  $7(10x - 6) =$

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

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

5.  $-5(x - -2) =$

Use the Distributive Property to write each expression in factored form.

1.  $4x + 2 =$

2.  $-6x + 9 =$

3.  $10x - 15 =$

4.  $-2x + -6 =$

5.  $-3x + -18 =$

Use the Distributive Property to write **ALL** the possible expressions in **factored form**.

1.  $4x + 8$

2.  $12x + 18$

3.  $10x - 60$

4.  $48x - 12$

## Homework:

finish notes sheet problems

### Homework Answers:

1.  $4x + 8$

$2(2x + 4)$

$4(x + 2)$

3.  $10x - 60$

$2(5x - 30)$

$5(2x - 12)$

$10(x - 6)$

2.  $12x + 18$

$2(6x + 9)$

$3(4x + 6)$

$6(2x + 3)$

4.  $48x - 12$

$2(24x - 6)$

$3(16x - 4)$

$4(12x - 3)$

$6(8x - 2)$

$12(4x - 1)$

### Distributive Property

ex:

**expanding using Distributive Property**

$2(x + 6)$

$2 \cdot x + 2 \cdot 6$

$2x + 12$

**factoring using Distributive Property**

$20 + 4x$

$4 \cdot 5 + 4 \cdot x$

$4(5 + x)$

A property used to rewrite (factor or expand) expressions involving addition and multiplication:

$$a(b + c) = ab + ac$$