

Chapter 7 - Pretest

$$\frac{9}{12} = \frac{3 \cdot 3}{3 \cdot 4} = \frac{3}{4}$$

$$\frac{6s}{60} = \frac{6 \cdot s}{6 \cdot 10} = \frac{s}{10}$$

Use the Distributive Property to write each expression as an equivalent algebraic expression.

- FACTORED FORM** → $6(s+10)$ → **SIMPLIFIED FORM** → $6s+60$ → **DISTRIBUTED FORM**
- COEFFICIENT** ↑ **VARIABLE** ↑ **CONSTANT** ↑
- $6(s+10)$
 - $9(a-4) = 9(a) - 9(4) = 9a - 36$
 - $-5(3-b) = -5(3) - (-5)(b)$
 - $11(m+7)$
 $m+m+m+m+m+m+m+m+m+m+77$
 - Suppose you pay \$15 per hour to go horseback riding. You ride 2 hours today and plan to ride 4 more hours this weekend. Write two equivalent expressions for the total cost of horseback riding. Then, find the total cost.

- $6s+60$
- $9a-36$
- $-15-(-5b) = -15+5b$
- $11m+77$

- $15(2) + 15(4)$ ← DISTRIBUTED FORM
 $15(2+4)$ ← FACTORED FORM
 90 ← SIMPLIFIED FORM

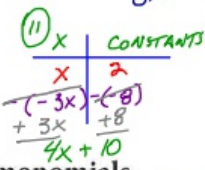
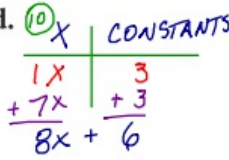
Simplify each expression.

- $x+3x+4$
- $10z+6z-11+7 \rightarrow 10z+6z+(-11)+7$
- $mn+3(2mn-4) = mn+3(2mn)-3(4) = mn+6mn-12$
- $-7s-5s-4 = -7s+(-5s)+(-4)$

- $4x+4$
- $16z+(-4) = 16z-4$
- $7mn-12 = 7mn+(-12)$
- $-12s+(-4) = -12s-4$

Add or subtract. Use models if needed.

- $(x+3) + (7x+3)$
 - $(x+2) - (-3x-8)$
 - $(7x+1) - (4x+8)$
 - $(4x-3) + (-3x+1)$
- Find the GCF of each pair of monomials.



$7x-4x = 3x$
 $1-8 = -7$

Find the GCF of each pair of monomials.

- $9x, 12x$ → $\frac{9}{12} = \frac{3 \cdot 3}{3 \cdot 4} = \frac{3}{4}$ → $\frac{9x}{12x} = \frac{3 \cdot 3 \cdot x}{3 \cdot 4 \cdot x}$
- $20b, 8b$ → $\frac{20b}{8b} = \frac{4 \cdot 5 \cdot b}{4 \cdot 2 \cdot b}$

- $8x+6$
- $4x+10$
- $3x-7$ or $3x+(-7)$
- $x-2$ or $x+(-2)$
- $3x$
- $4b$

Factor each expression. If the expression cannot be factored, write cannot be factored. Use algebra tiles if needed.

- $21x+7$ → $\frac{21x}{7} = \frac{7 \cdot 3 \cdot x}{7 \cdot 1}$
- $5x+12$ → $\frac{5}{12}$
- $8-14x$

- $7(3x+1)$
- CANNOT BE FACTORED
- $2(4-7x)$

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→ $20b+8b = 4b(5+2)$

$$12x - 15xy = 3x(4 - 5y)$$

$$\frac{12x}{15xy} = \frac{4 \cdot \boxed{3} \cdot \boxed{x}}{5 \cdot \boxed{3} \cdot \boxed{x} \cdot y} = \frac{4}{5y}$$

$$12 = 3 \cdot 4$$

$$12 = 6 \cdot 2$$

$$3x(5y) = 15xy$$

$$16ab + 20ac = 4a(4b + 5c)$$

$$\frac{16ab}{20ac} = \frac{\boxed{4} \cdot 4 \cdot \boxed{a} \cdot b}{4 \cdot 5 \cdot \boxed{a} \cdot c} = \frac{4b}{5c}$$

$$(4x + 5) - (2x + 8)$$

x	CONSTANT
4x	5
-2x	-8
2x	-3

$$2x + (-3)$$

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

$$(4x + (-5)) - (2x + (-8))$$

x	CONSTANTS
4x	-5
-2x	-(-8)
2x	3

$$2x + 3$$

$$-5 - (-8) = -5 + 8 = 3$$