

2.5 p80

Properties

$$\begin{array}{l} \left[\begin{array}{l} (56 + 98) + 2 \\ \rightarrow (98 + 2) + 56 \\ 100 + 56 \end{array} \right. \end{array}$$

156
Commutative Property of Addition
Change Order

$$\begin{array}{cc} 8-7 & 7-8 \\ 1 & -1 \end{array}$$

$$72 \cdot 5 \cdot 2$$

$$\begin{array}{l} 5 \cdot 2 \cdot 72 \\ 10 \cdot 72 \end{array}$$

720

720
Commutative Property of Multiplication

$$\begin{array}{cc} \frac{8}{2} & \frac{2}{8} \\ 4 & \frac{1}{4} \end{array}$$

$$(8 + 7) + 3$$

$$8 + (7 + 3)$$

18

Associative Property of Addition

$$(8 - 7) - 5$$

$$-4$$

$$8 - (7 - 5)$$

$$8 - 2$$

6

$$(7 \cdot 5) \cdot 2$$

$$(35) \cdot 2$$

70

$$7(5 \cdot 2)$$

$$7(10)$$

70

Associative Property of Multiplication

$$(24 \div 12) \div 2$$

$$2 \div 2$$

1

$$24 \div (12 \div 2)$$

$$24 \div 6$$

4

$$4\left(3\frac{1}{2}\right) \quad 4\left(3 + \frac{1}{2}\right)$$

$$12 + 2$$

$$14$$

Distributive Property of Multiplication
over Addition

$$3(8 - 4)$$

$$3(4)$$

$$12$$

$$3(8 - 4)$$

$$3(8) - 3(4)$$

$$24 - 12$$

$$12$$

$$5(x - 4)$$

$$5x - 5(4)$$

$$5x - 20$$

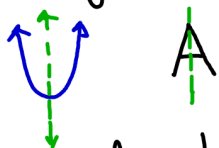
Reflexive Property

$$a = a$$

$$5 = 5$$

$$x - 5 = 7$$

Symmetric Property



If $a = b$ then $b = a$

$$\begin{array}{l} \overset{-4}{9} = x + 4 \\ 5 = x \end{array} \qquad \begin{array}{l} \overset{-4}{x} + 4 = 9 \\ x = 5 \end{array}$$

Transitive Property

If $a = b$ and $b = c$ then $a = c$

$$x = 4 \text{ and } 4 = 3 + 1 \text{ then } x = 3 + 1$$

Substitution Property

If $a = b$ then a can replace b
 b can replace a

$$\begin{array}{l} x + y \\ -4 + -1 \end{array} \text{ Substitution } \begin{array}{l} x = -4 \\ y = -1 \end{array}$$

$$-5$$

Distributive Property

$$3x + 15$$

$$3(x + 5)$$

GCF

$$xy - xz$$

$$x(y - z)$$

$$4a + 32$$

$$4(a + 8)$$

GCF

$$\frac{4a}{4} \quad \frac{32}{4}$$

$$35st + 20rs$$

$$5s(7t + 4r)$$

$$9mn - 9n$$

$$9n(m - 1)$$

$$9n(m - 1)$$

p 86

$$\begin{aligned}
 12. \quad & (24 + 27) + 56 \\
 & = (27 + 24) + 56 && \text{Comm. Prop.} \\
 & = 27 + (24 + 56) && \text{Associative Prop.} \\
 & = 27 + 80 && \text{Simplifying} \\
 & = 107
 \end{aligned}$$

p 86

$$\begin{array}{r}
 22 - 36 E \\
 44
 \end{array}$$