SEC 4.1.3

Note Title 11/9/2017

$$a(x+b)=c$$

&

$$a(bx+c)=d(ex+f)$$

p. 105

STEPS:

1. REMOVE BRACKETS USING THE DISTRIBUTIVE LAW
2. COLLECT LIKE TERMS
3. FIND VARIABLE(S)
4. MOVE VARIABLES TO ONE SIDE
5. REMOVE CONSTANT & THEN COEFFICIENT

} USING INVERSE OPERATIONS

DISTRIBUTIVE LAW: $a(bx+c) = abx + ac$

Ex) $5(2+1) = 15$

$5(2) + 1 \neq 15$

$10 + 1 \neq 15$

} FORGOT TO MULT. 2nd TERM

$5(2+1) = 15$

$5(2) + 5(1) = 15$

$10 + 5 = 15$

} CORRECT!

Ex. 1) $2(x+5) = 16$

$2x + 2(5) = 16$

$2x + 10 = 16$

$-10 \quad -10$

$\frac{2x}{2} = \frac{6}{2}$

$x = 3$

Ex. 2) $-27 = -3(n-1)$

$-27 = -3n + 3$

$-3 \quad -3$

$$\frac{-30}{-3} = \frac{-3n}{-3}$$

$$10 = n$$

Ex. 3) $5(y+3) = 4(y+5)$

$$5y + 15 = 4y + 20$$

$$-4y \qquad -4y$$

$$1y + 15 = 20$$

$$-15 \qquad -15$$

$$y = 5$$

Ex. 4) $7 + 2(4 - 3x) = -5(x - 2)$

$7 + 8 - 6x = -5x + 10$

$15 - 6x = -5x + 10$

$+6x \qquad +6x$

$15 = 1x + 10$

$-10 \qquad -10$

$5 = x$

Ex. 5) $x - 2 = 6(x - 2) - 2(x + 1)$

$$x - 2 = 6x - 12 - 2x - 2$$

$$x - 2 = 4x - 14$$

$$-x \qquad\qquad -x$$

$$-2 = 3x - 14$$

$$+14 \qquad\qquad +14$$

$$\frac{12}{3} = \frac{3x}{3}$$

$$4 = x$$

Ex. 6) $\frac{1}{2}(4x - 6) - \frac{1}{4}(24 - 8x) = \frac{1}{3}(6x - 21)$

$$2x - 3 - 6 + 2x = 2x - 7$$

$$4x - 9 = 2x - 7$$

$$-2x \qquad -2x$$

$$2x - 9 = -7$$

$$+9 \qquad +9$$

$$\frac{2x}{2} = \frac{2}{2}$$

$$x = 1$$

p. 98 RED/105 BLACK

#1-8 NOVICE

#1-16 APPRENTICE

#1-15 ODD #17-22 EXPERT