3.4 **Oct. 12, 2006**

Solving Equations w/ Variables on Both Sides

ex 1) $7x + 19 = -2x + 55$

$+2x \qquad +2x$

$9x + 19 = 55$

$-19 \qquad -19$

$\frac{9x}{9} = \frac{36}{9}$

$x = 4$

check

$7(4) + 19 \stackrel{?}{=} -2(4) + 55$

$28 + 19 \stackrel{?}{=} -8 + 55$

$47 = 47$ ✓

ex2) $80 - 9y = 6y$

$+9y \quad +9y$

$1680 = 15y$

$\frac{1680}{315} = \frac{15y}{15}$

$\frac{16}{3} = y$

ex 3) $3x - 10 + 4x = 5x - 6$

$7x - 10 = 5x - 6$

$-5x \quad -5x$

$2x - 10 = -6$

$+10 \quad +10$

$\frac{2x}{2} = \frac{4}{2}$

$x = 2$

Check:

$3(2) - 10 + 4(2) \stackrel{?}{=} 5(2) - 6$

$6 - 10 + 8 \stackrel{?}{=} 10 - 6$

$-4 + 8 \stackrel{?}{=} 4$

$4 = 4$ ✓

of Solutions

Linear equations have 1 Solution.

Some Linear equations have NO Solution

Identity is an equation that is true for
All values of the Variables.

Determine if the equation has, 1 solution, no solution, or is the identity.

a) $3(x+2) = 3x+6$

$3(x)+3(2) = 3x+6$

$3x+6 = 3x+6$

$-3x \quad -3x$

$6 = 6$ → True... Identity

b) $3(x+2) = 3x+4$

$3(x)+3(2) = 3x+4$

$3x+6 = 3x+4$

$-3x \quad -3x$

$6 = 4$ → False... No Solution

c) $3(x+2) = 2x+4$

$3(x)+3(2) = 2x+4$

$3x+6 = 2x+4$

$-2x \quad -2x$

$x+6 = 4$

$-6 \quad -6$

$x = -2$ → one Solution

O.T.L.

① pg 154-155:

9-14(a);

17-33(o); 48

② Turn in pg 150 1-6 all