Curriculum Outcomes:

PR1: . Generalize a pattern arising from a problem-solving context using linear equations and verify by substitution.

PR3. Model and solve problems using linear equations of the form:

***ax* = *b;* = b , a ≠ 0; *ax* + *b* = *c*; +*b* = *c,* a ≠ 0; = *b*, *x* ≠ 0 ax ax xa**

ax*+ *b* = *cx* + *d; a(bx* + *c)* = *d(ex* + *f); a(x* + *b)* = *c; ax* = b+*cx

concretely, pictorially and symbolically, where*a, b, c, d, e, and f* are rational numbers

Student Friendly:

"Solving for an unknown variable using opposite operations"

1) $5w - 2 = 30.5$

2) $\frac{x}{2} + 3 = -4.4$

3) Write an equation and then solve:

a) six times a number is -33.6

b) a number divided by -3 is 45.6

1) $5w - 2 = 30.5$

$+2 \quad +2$

$\frac{5w}{5} = \frac{32.5}{5}$

$w = 6.5$

2) $\frac{x}{2} + 3 = -4.4$

$-3 \quad -3$

$\frac{x}{2} = -7.4$

$\times(2) \quad \times(2)$

$x = -14.8$

3) Write an equations and solve:

a) six times a number is -33.6

$6x = -33.6$

$\frac{6x}{6} = \frac{-33.6}{6}$

$x = -5.6$

b) a number divided by -3 is 45.6

$\frac{x}{(-3)} = 45.6$

$\frac{x}{(-3)} \times (-3) = 45.6 \times (-3)$

$x = -136.8$

3) $7 = \frac{n}{4} - 15.6$ (+15.6)

$22.6 \times 4 = \frac{n}{4} \times 4$

$90.4 = n$

$\updownarrow$

$n = 90.4$

INVERSE PROPERTY:

This property occurs when a mathematical operation is "undone". For example, subtraction "undoes" addition and division "undoes" multiplication. Algebra is based on this property. We sometimes say that we use the "method of inverse operations" to solve algebraic equations.

Use inverse operations to solve for "x":

$$13 = 7 + 3x$$

$$-14 = -2w + 6$$

-6 -6

$$\frac{-20}{-2} = \frac{-2w}{-2}$$

$$10 = w$$

SAMDEB!!!

But becareful because it doesn't always work

*** ***

THIS DOES NOT ALWAYS WORK

Let's solve this equation algebraically together using SAMDEB:

$$4.5d + 3.2 = 18.5$$

Solve

$$\frac{(3x - 1)}{2} = 7$$

(2) (2)

$$3x - 1 = 14$$

$+1$ $+1$

$$\frac{3x}{3} = \frac{15}{3}$$

$$x = 5$$

(2) (2) (2)

$$\frac{3x}{2} - \frac{1}{2} = 7$$

$\leftarrow 3x - 1 = 14$

$$\frac{(2x-4)}{3} = 2 \quad \times 3 \quad \times 3$$

$$2x - 4 = 6 \quad +4 \quad +4$$

$$\frac{2x}{2} = \frac{10}{2}$$

$$x = 5$$

Solve

$4(x-3) = -10$

$4x - 12 = -10$ (+12 +12)

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

$x = 0.5$

Class Work
and
Finish for Homework

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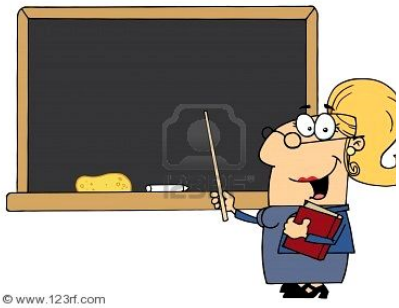

Period

8(all), #9(ab) , #10(abcd), 11, 13,

14, 16, 18(ace), 20, 24 (ac)