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"

Warm Up

1) $2x - 5 = 17$

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

3) Write an equations and solve:

a) 3 times a number plus 7 is 18.4

b) half a number, add to 4 is 17

1) $2x - 5 = 17$

$+5 \quad +5$

$\frac{2x}{2} = \frac{22}{2}$

$x = 11$

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

$(3) \quad (3)$

$x - 21 = -6$

$+21 \quad +21$

$x = 15$

3) Write an equations and solve:

a) 3 times a number plus 7 is 18.4

$3x + 7 = 18.4$

$-7 \quad -7$

$\frac{3x}{3} = \frac{11.4}{3}$

$x = 3.8$

b) half a number, add to 4 is 17

$4 + \frac{x}{2} = 17$

$(2) \quad (2)$

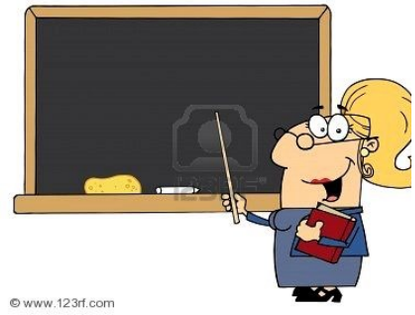
$8 + x = 34$

$-8 \quad -8$

$x = 26$

Any Questions???

Last Nights Homework



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8, 9ab, 10abcd,

Solve

$$4(x-3) = -10$$

$$4x - 12 = -10$$ (+12 to both sides)

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

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

$$x = \frac{1}{2}$$

LH

$4x - 12$

$4\left(\frac{1}{2}\right) - 12$

$2 - 12$

-10

RH

-10

$7 = 2(3x + 4)$

$7 = 6x + 8$

$-8 \quad -8$

$-1 = 6x$

$\frac{-1}{6} = \frac{6x}{6}$

$x = \frac{-1}{6}$

LH

7

RH

$6x + 8$

$6\left(\frac{-1}{6}\right) + 8$

$-1 + 8$

7

Equations to Model and Solve a Problem

Find the height and width of a box if given the Area is $52cm^2$ and the volume is $187.2\ cm^3$ length is 8cm

Area = l x w

||

$\frac{52}{8} = \frac{8w}{8}$

$6.5 = w$

Volume = l x w x h

↓

$187.2 = 8 \times 6.5\ h$

$\frac{187.2}{52} = \frac{52}{52}\ h$

$3.6 = h$

Lets try some more:

$6 - 7e = 50$

$-6 \quad -6$

$\frac{-7e}{-7} = \frac{44}{-7}$

$e = -\frac{44}{7}$

LH

$6 - 7e$

$6 - 7\left(-\frac{44}{7}\right)$

$6 + (+44)$

50

RH

50

$$\frac{2x}{5}^{(15)} + \frac{1}{3}^{(15)} = -1^{(15)}$$

$$\frac{30x}{5} + \frac{15}{3} = -15$$

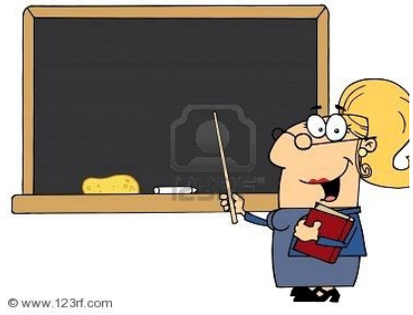
$$6x + 5^{-5} = -15^{-5}$$

$$\frac{6x}{6} = \frac{-20}{6}$$

$$x = -\frac{20}{6}$$

$$x = -\frac{10}{3}$$

Class Work
and
Finish for Homework



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Questions

10(ef), 11ad,14, 16, 18(ace), 24