Curriculum Outcomes:

PR1: . **Generalize a pattern arising from a problem-solving context using linear equations and verify by substitution.**
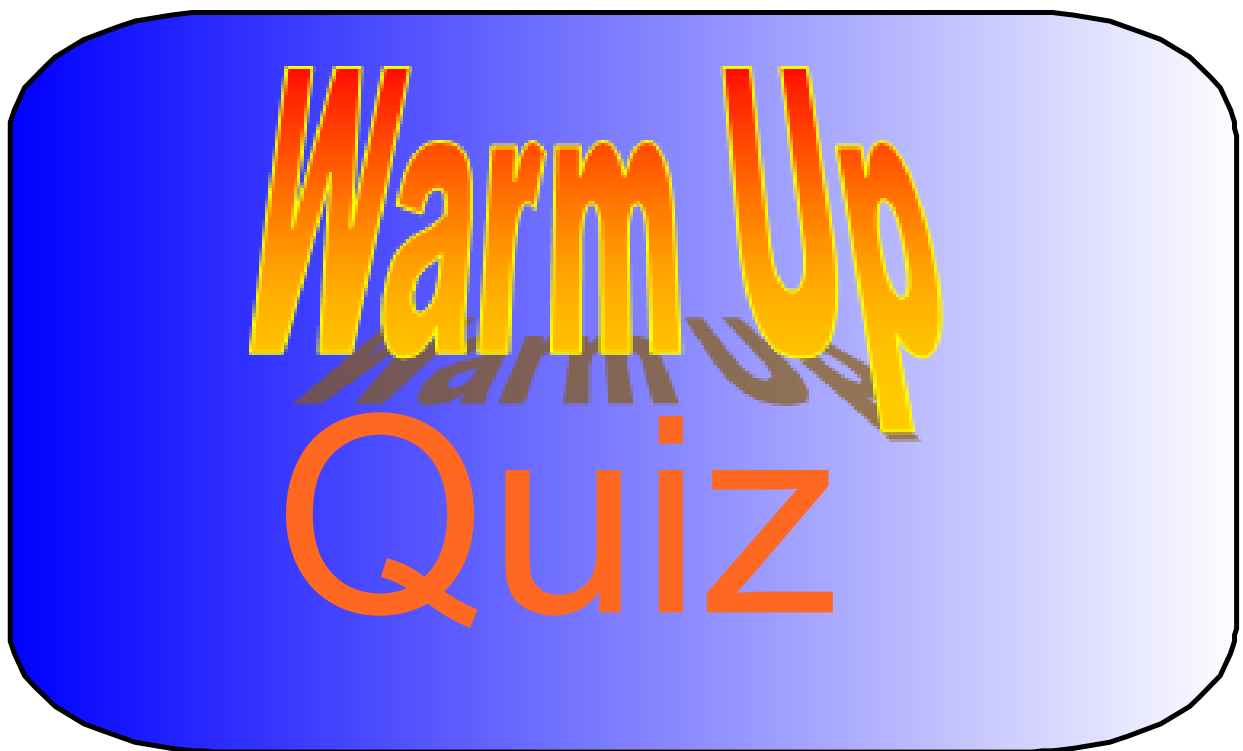
PR3. Model and solve problems using linear equations of the form:

$ax = b;$ = 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:

"Rearranging an equation with variables on both side of the equal sign"
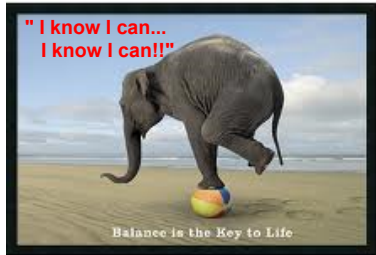
last night's homework

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6
8
#10

Any Questions??????

$$(12) \quad (12) \quad (12)$$

$$\frac{5a}{4} = \frac{a}{6} + 2$$

$$\frac{60a}{4} = \frac{12a}{6} + 24$$

$$-2a \qquad -2a$$

$$15a = 2a + 24$$

$$15a - 2a = 24$$

$$\frac{13a}{13} = \frac{24}{13}$$

$$a = \frac{24}{13}$$

" I know I can...
I know I can!!"

Balance is the Key to Life

4

$$(r) \quad (r) \quad (r)$$
$$\frac{5}{r} + 2 = 6$$
$$\frac{5r}{r} + 2r = 6r \quad -2r$$
$$-2r$$
$$5 = 6r - 2r$$
$$\frac{5}{4} = \frac{4r}{4}$$
$$1.25 = r$$

$$\left(\frac{5}{r}\right) + 2 = 6 \quad -2 \quad -2$$
$$\frac{5}{r} = 4^{(r)}$$
$$\frac{5}{4} = \frac{4r}{4}$$
$$1.25 = r$$

Two restaurants charge different rates for catering a party

Dinner Time!

Company A: $30 plate plus an addition flat fee of $300

$$30x + 300$$

Company B: $55 a plate

$$55x$$

When do the two companies charge the same amount???
Verify your work

$$30x + 300 = 55x$$
$$-30x \qquad\qquad -30x$$

$$\frac{300}{25} = \frac{25x}{25}$$

$$12 = x$$

Solve

$$9z-1-7z = 7-6z-15$$

$$2z-1 = -6z-8$$

$$+6z \qquad +6z$$

$$8z-1 = -8$$

$$+1 \qquad +1$$

$$\frac{8z}{8} = \frac{-7}{8}$$

$$z = -\frac{7}{8}$$

$$z = \frac{-7}{8}$$

Solve

$$4(y+8) = 7(y+2)$$

$$y= 6$$

$$\underset{4y}{\textcircled{4y}} + 32 = \underset{7y}{\textcircled{7y}} + \cancel{14}$$

$$\overset{-4y}{}\qquad \overset{-4y}{}$$

$$-14 \qquad -14$$

$$32 = 7y - 4y + 14$$

$$32 - 14 = 7y - 4y$$

$$\frac{18}{3} = \frac{3y}{3}$$

$$6 = y$$

$$\frac{2}{3} (6x + 9) = \frac{1}{2} (10x - 2)$$

$$\frac{2}{3} \times \frac{6x}{1} = \frac{12x}{3}$$

$$\frac{12x}{3} + \frac{18}{3} = \frac{10x}{2} - \frac{2}{2}$$

$$4x + 6 = 5x - 1$$

$$6 = x - 1$$

$$7 = x$$

$$\frac{2}{3}(6x + 9) = \frac{1}{2}(10x - 2)$$

$$\frac{2}{3} \times \frac{6x}{1}$$

$$\frac{12x}{3} + \frac{18}{3} = \frac{10x}{2} - \frac{2}{2}$$

$$4x + 6 = 5x - 1$$

$$-4x \qquad -4x$$

$$6 = 5x - 4x - 1$$

$$7 = 1x \qquad x = 7$$

$x = 17$

$$\frac{2}{3}(5x + 2) = \frac{1}{2}(7x - 3)$$

$$\frac{10x}{3}^{(6)} + \frac{4}{3}^{(6)} = \frac{7x}{2}^{(6)} - \frac{3}{2}^{(6)}$$

$$\frac{60x}{3} + \frac{24}{3} = \frac{42x}{2} - \frac{18}{2}$$

$$20x + 8 = 21x - 9$$
$$-20x \qquad -20x$$

$$8 = x - 9$$
$$+9 \qquad +9$$

$$17 = x$$

$$\frac{2}{3}(5x + 2) = \frac{1}{2}(7x - 3)$$

$$\frac{10x^{(6)}}{3} + \frac{4^{(4)}}{3} = \frac{7x^{(6)}}{2} - \frac{3^{(6)}}{2}$$

$$20x + 8 = 21x - 9$$

$$-20x \qquad -20x$$

$$8 = x - 9^{+9}$$
$$^{+9}$$

$$17 = x$$

Class/Homework

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#11(b,d)

#16 (ai)

#17(ac)

19(a,b)

#21(a,b)

When you see fractions you must work with fractions