

September 14th, 2007

Solving Equations.

Solve for "p"

Ex 1: $3p - 4q + 6 = 0$

$$3p = 4q - 6$$

$$\frac{3p}{3} = \frac{4q - 6}{3}$$

$$p = \frac{4}{3}q - 2$$

$$q(1-p) = \left(\frac{2}{3}\right)q$$

$$(1-p)q = 0$$

$$q = \frac{2}{1-p}$$

for 2 equations to form

Ex 2: METHOD 1
(Solve w/ fac til end)

METHOD 2
(Rid Frac Now)

$$\frac{2}{3}p - \frac{6}{7}q = \frac{1}{2}$$

$$\frac{2}{3}p - \frac{6}{7}q = \frac{1}{2}$$

$$\frac{\frac{2}{3}p}{\frac{2}{3}} = \frac{\frac{6}{7}q}{\frac{2}{3}} + \frac{\frac{1}{2}}{\frac{2}{3}}$$

$$\left(\frac{2}{3}p\right)42 - \left(\frac{6}{7}q\right)42 = \left(\frac{1}{2}\right)42$$

$$p = \frac{9}{7}q + \frac{3}{4}$$

$$28p - 36q = 21$$

$$\frac{28p}{28} = \frac{36q}{28} + \frac{21}{28}$$

$$p = \frac{9}{7}q + \frac{3}{4}$$

Ex 3: $\frac{2p+3q}{4} = 6$

$$\left(\frac{2p+3q}{4}\right)4 = 6(4)$$

$$2p + 3q = 24$$

$$\frac{2p}{2} + \frac{3q}{2} = \frac{24}{2}$$

$$p = -\frac{3}{2}q + 12$$

Ex 4: $\frac{6}{p} + 1 = q$

$$p\left(\frac{6}{p}\right) = (q-1)p$$

$$6 = p(q-1)$$

$$\frac{6}{q-1} = p$$

Put in $y = mx + b$ Form

Ex 1: $\frac{1}{2}x - 3y = 6$

$$\frac{\frac{1}{2}x}{3} - \frac{6}{3} = \frac{3y}{3}$$

$$\frac{1}{6}x - 2 = y$$

October 1st, 2007

Solving Equations

Solve for the unknown

Ex 1: $3(2x-5)+2x=4(x-3)$

$$3(2x-5)+2x=4(x-3)$$

$$6x-15+2x=4x-12$$

$$6x+2x-4x=15-12$$

$$4x=3$$

$$x=\frac{3}{4}$$

Ex 2: $\frac{2x+1}{3}-2=\frac{x+1}{2}$

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

$$\frac{2(2x+1)}{2}-\frac{12}{6}=\frac{3(x+1)}{6}$$

$$\frac{4x+2}{6}-\frac{12}{6}=\frac{3x+3}{6}$$

$$\frac{4x}{6}-\frac{3x}{6}=\frac{-2}{6}+\frac{12}{6}+\frac{3}{6}$$

$$\frac{x}{6}=\frac{13}{6}$$

$$x=13$$

$$\text{Ex 3: } \frac{2x+1}{3} - \frac{5x-3}{5} = 2 - \frac{x+1}{3}$$

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

$$5(2x+1) - 3(5x-3) = 30 - 5(x-1)$$

$$10x + 5 - 15x + 9 = 30 - 5x - 5$$

$$10x - 15x + 5x = -5 - 9 - 5 + 30$$

$$0x = 11$$

∴ no solution

$$\text{Ex 4: } \frac{x-3}{5} - 1 = \frac{2x}{3} + 4$$

$$\frac{x-3}{5} - 1 = \frac{2x}{3} + 4$$

$$\frac{x-3}{5}(15) - 1(15) = \frac{2x}{3}(15) + 4(15)$$

$$3(x-3) - 15 = 5(2x) + 60$$

$$3x - 9 - 15 = 10x + 60$$

$$3x - 10x = 60 + 9 + 15$$

$$-7x = 84$$

$$x = -12$$