To solve equations with fractions...
GET RID OF THEM!!

... by multiplying by the Lowest Common Denominator (LCD)

4 3
8 6
12 9
16 12

Example 1: Solve the following:

a) $\frac{w-1}{4} = \frac{w+2}{3}$ (×12, ×12)

$\frac{(12)(w-1)}{4} = \frac{(12)(w+2)}{3}$

$(3)(w-1) = (4)(w+2)$

$3w - 3 = 4w + 8$ (−3w)

$-3 - 8 = 4w - 3w + 8 - 8$

$-3 - 8 = w$

$-11 = w$

b) $\frac{5-2a}{4} = \frac{6-a}{5}$ (×20, ×20)

$\frac{20(5-2a)}{4} = \frac{20(6-a)}{5}$

4 5
8 10
12 15
16 20
20
24

$25 - 10a = 24 - 4a$

$25 - 24 = -4a + 10a$

$\frac{1}{6} = \frac{6a}{6}$

$\frac{1}{6} = a$

c) $\frac{3x}{4} + \frac{x-5}{3} = \frac{1}{6}$

4 3 6
8 6 12
12 9
16 12

$\frac{(12)3x}{4} + \frac{12(x-5)}{3} = \frac{(12)1}{6}$

$9x + 4x - 20 = 2$

$13x = 2 + 20$

$\frac{13x}{13} = \frac{22}{13}$

$x = \frac{22}{13}$

Example 2: Solve and check

$$\frac{2}{3}(3d+5)=\frac{3}{4}(2d+4)$$

$$\frac{12(2)(3d+5)}{3\,1}=\frac{12(3)(2d+4)}{4\,1}$$

$$8(3d+5)=9(2d+4)$$

$$24d+40=18d+36$$

$$24d-18d=36-40$$

$$\frac{6d}{6}=\frac{-4}{6}$$

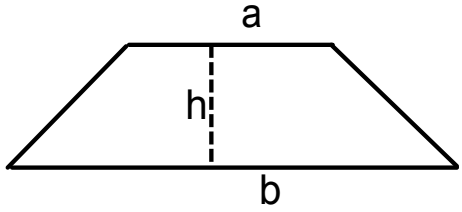
$$d=-\frac{2}{3}$$

CHECK

Left Side	Right Side

** NOTE you will need the following formulas for the word problems

Area of a Trapezoid = $\frac{1}{2}(a+b)h$



Area of a Triangle = $\frac{1}{2}bh$