

Feb. 21, 2018

$$a) \overbrace{3(4x+3)} + \overbrace{2(x-9)}$$

$$= 12x + 9 + 2x - 18$$

$$= 12x + 2x + 9 - 18$$

$$= \boxed{14x - 9}$$

$$b) \overbrace{3x(2x+5)} + \overbrace{4(3x-2)}$$

$$= 6x^2 + 15x + 12x - 8$$

$$= \boxed{6x^2 + 27x - 8}$$

## One Step Algebra

To solve for  $x$ , just  
do the opposite operation.

$$a) x + 2 = 5$$

$$x + 2 - 2 = 5 - 2$$

$$\boxed{x = 3}$$

$$b) x - 3 = 8$$

$$x - 3 + 3 = 8 + 3$$

$$\boxed{x = 11}$$

c)  $\frac{3x}{3} = \frac{21}{3}$  "3 times x"

$$x = 7$$

d)  $\frac{3.8x}{3.8} = \frac{142}{3.8}$

$$x = 37.36842\dots$$

$$x = 37.4$$

## Two-Step Algebra

- ① put  $x$ 's on one side,  
numbers on the other
- ② divide by the  
 $x$  coefficient

$$e) \quad 3x - 2 = 10$$

$$3x - 2 + 2 = 10 + 2$$

$$\frac{3x}{3} = \frac{12}{3}$$

$$\boxed{x = 4}$$

$$f) 5x - 9 = 91$$

$$5x - 9 + 9 = 91 + 9$$

$$\frac{5x}{5} = \frac{100}{5}$$

$$x = 20$$



$$g) -2x + 5 = 2$$

$$-2x + 5 - 5 = 2 - 5$$

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

$$x = +1.5$$

$$h) \quad 0.8x + 1.2 = 3.7$$

$$0.8x + 1.2 - 1.2 = 3.7 - 1.2$$

$$\frac{0.8x}{0.8} = \frac{2.5}{0.8}$$

$$\boxed{x = 3.125}$$

$$i) 4x + 5 = -3$$

$$4x + 5 - 5 = -3 - 5$$

$$\frac{4x}{4} = \frac{-8}{4}$$

$$\boxed{x = -2}$$