

36) $2m - nx = x + 4$ (Solve for x)

$$-2m \quad -2m$$

$$-nx = -2m + x + 4 \quad (\text{Put variables in alphabetical order})$$

$$-x$$

$$-nx - x = -2m + 4$$

$$x(-n-1) = -2m + 4 \quad (\text{factor out } x)$$

$$x = \frac{-2m + 4}{-n - 1}$$

OR

$$x = \frac{-1}{-1} \left(\frac{-2m + 4}{-n - 1} \right)$$

Since $\frac{-1}{-1} = 1$, you aren't changing the expression

$$x = \frac{2m - 4}{n + 1}$$

* Can multiply numerator + denominator by -1 to clear negatives

(37) $\frac{x}{a} - \frac{y}{b} = \frac{y}{b} + 1$ solve for x

$\frac{a}{1} \left(\frac{x}{a} = \frac{y}{b} + 1 \right)$
Multiply by a
to undo the fraction
and isolate a

$$x = \frac{ay}{b} + a$$

38) $ax + 2xy = 14$ (solve for y)

$\frac{2x}{2x} = \frac{-ax + 14}{2x}$

Can't simplify these any further because x is not common to both terms in the numerator

$x = \frac{-a(x) + 14}{2x}$

39) $V = \frac{1}{3}\pi r^2 h$ (solve for h)

don't forget to divide the fractions

$h = \frac{3V}{\pi r^2}$

$\frac{1}{\frac{1}{3}}$

$\frac{1}{1} \times \frac{3}{1} = 3$

40 $A = \left(\frac{f+g}{2} \right) \frac{h}{1}$ (solve for g)

$$A = \frac{hf + gh}{2} \leftarrow \text{distribute}$$

$$\frac{2}{1} \cdot A = \frac{hf + gh}{2} \cdot \frac{2}{1}$$

$$2A = hf + gh$$

$$-hf \quad -hf$$
$$\frac{2A - hf}{h} = \frac{gh}{h}$$

$$g = \frac{2A - hf}{h}$$

$$g = \frac{2A}{h} - \frac{hf}{h}$$

(separate using distributive property)

$$g = \frac{2A}{h} - f$$

41) $2(x+a) = 4b$ (solve for a)

$$2x + 2a = 4b$$
$$-2x \quad -2x$$

$$2a = \frac{4b - 2x}{2}$$

$$a = \frac{4b - 2x}{2}$$

$$a = \frac{2(2b - 1x)}{2}$$

factor 2 out of numerator

$$a = 2b - x$$