# Solutions : Quiz

## Part A:

1. $\frac{x+4}{3} = \frac{6-x}{2}$ lcd = 6

$$^{2}\cancel{6}\left[\frac{x+4}{\cancel{3}_{1}}\right] = \cancel{6}^{3}\left[\frac{6-x}{\cancel{2}}\right]$$

$$2(x+4) = 3(6-x)$$
$$2x+8 = 18-3x$$
$$2x+3x = 18-8$$
$$5x = 10$$
$$x = 2$$

b) $\frac{x+1}{3} - \frac{6}{4} = \frac{x-1}{2}$, lcd = 12

$$\cancel{12}^{4}\left[\frac{x+1}{\cancel{3}}\right] - \cancel{12}^{3}\left[\frac{6}{\cancel{4}_{1}}\right] = \cancel{12}^{6}\left[\frac{x-1}{\cancel{2}_{1}}\right]$$

$$4(x+1) - 18 = 6(x-1)$$
$$4x+4-18 = 6x-6$$
$$4x-14 = 6x-6$$
$$-14+6 = 6x-4x$$
$$-8 = 2x$$
$$-4 = x$$

2. $y = mx+b$

$$y-b = mx$$
$$\frac{y-b}{m} = x$$

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

$3V = \left[\frac{\pi r^2 h}{\cancel{3}}\right]\cancel{3}$ • multiply both sides by 3, cancel out fraction

$3V = \pi r^2 h$

$\frac{3V}{\pi h} = \frac{\cancel{\pi} r^2 \cancel{h}}{\cancel{\pi h}}$ • divide both sides by $\pi h$ reduce fraction

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

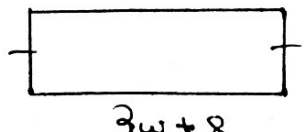
$\sqrt{\frac{3V}{\pi h}} = r$ • square root both sides

## Part B

3. Let p rep Adrian's earnings for delivering papers
Let 2p rep " " " toddler-sitting

$\Rightarrow p + 2p = 800$

4. Let m rep Merlot's amount $\Rightarrow m + (3m) + (m+250) = 2750$
Let 3m rep. Tyler's amount
Let (m+250) rep Jadi's amount

5. 


Let w rep the width
Let (3w+8) rep. the length $\Rightarrow 2w + 2(3w+8) = 136$

6.

| Type of object | # of (quantity) | cost of |
|---|---|---|
| senior | s | 15s |
| adults | 120−s | 24(120−s) |
| Total | | 2592 |

$15s + 24(120-s) = 2592$
$15s + 2880 - 24s = 2592$
$-9s = 2592 - 2880$
$-9s = -288$
$s = 32$
∴ There are 32 senior tickets sold.