$$= \frac{-2 \pm 4}{2} = \begin{cases} \frac{-2+4}{2} = \frac{2}{2} = 1 \\ \frac{-2-4}{2} = \frac{-6}{2} = -3 \end{cases}$$

[Tark. $x=1$: $1^2 = -2\cdot 1 + 3 \iff 1 = 1$ ✓
$x=-3$: $(-3)^2 = -2\cdot(-3)+3 \iff 9 = 6+3$ ✓]

Vast. $x=-3$ tai $x=1$

Esim. $\frac{1}{2}(x-4)^2 = 3 \quad | \cdot 2 \iff (x-4)^2 = 6$

$\iff x^2 - 2x\cdot 4 + 4^2 = 6$

$\iff x^2 - 8x + 16 = 6$

$\iff x^2 - 8x + 10 = 0$

$\begin{cases} a = 1 \\ b = -8 \\ c = 10 \end{cases}$

$$\iff x = \frac{-(-8) \pm \sqrt{(-8)^2 - 4\cdot 1 \cdot 10}}{2\cdot 1} = \frac{8 \pm \sqrt{64-40}}{2}$$

$$= \frac{8 \pm \sqrt{24}}{2} = \frac{8 \pm \sqrt{4\cdot 6}}{2} = \frac{8 \pm 2\sqrt{6}}{2} = \frac{2(4 \pm \sqrt{6})}{2} = 4 \pm \sqrt{6}$$

Vast. $x = 4 - \sqrt{6}$ tai $x = 4 + \sqrt{6}$

[TAI: $(x-4)^2 = 6 \quad | \sqrt{}$
$\iff x - 4 = \pm\sqrt{6} \iff x = 4 \pm \sqrt{6}$]

11.2 a) $x^2 + 3 = 5x \iff x^2 - 5x + 3 = 0$

$a = 1$
$b = -5$
$c = 3$

$$\iff x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = \frac{-(-5) \pm \sqrt{(-5)^2 - 4\cdot 1 \cdot 3}}{2\cdot 1}$$

$$= \frac{5 \pm \sqrt{25-12}}{2} = \frac{5 \pm \sqrt{13}}{2}$$

b) $3x^2 + 2x = -1 \iff 3x^2 + 2x + 1 = 0$

$\begin{cases} a = 3 \\ b = 2 \\ c = 1 \end{cases}$

$$\iff x = \frac{-2 \pm \sqrt{2^2 - 4\cdot 3 \cdot 1}}{2\cdot 3} = \frac{-2 \pm \sqrt{4-12}}{6} = \frac{-2 \pm \sqrt{-8}}{6}$$

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11.15 a) $x^2 - \frac{2}{3}x + \frac{1}{9} = 0 \quad | \cdot 9 \iff 9x^2 - 6x + 1 = 0$

$\begin{cases} a = 9 \\ b = -6 \\ c = 1 \end{cases}$

$$\iff x = \frac{-(-6) \pm \sqrt{(-6)^2 - 4\cdot 9 \cdot 1}}{2\cdot 9} = \frac{6 \pm \sqrt{36-36}}{18} = \frac{6 \pm \sqrt{0}}{18}$$

$$= \frac{6 \pm 0}{18} = \frac{6}{18} = \frac{1}{3}$$