A) Original Problem
$x^2 + 3 = -4x$

A)
$x^2 + 4x + 3 = 0$

A)
$x^2 + 4x = -3$

A)
$x^2 + 4x + 4 = -3 + 4$

A)
$(x + 2)^2 = 1$

A)
$x + 2 = \pm 1$

A)
$x = -1$ or $x = -3$

A) Original Problem
$x^2 + 3 = -4x$

A)
$x^2 + 4x + 3 = 0$

A)
$x^2 + 4x = -3$

A)
$x^2 + 4x + 4 = -3 + 4$

A)
$(x + 2)^2 = 1$

A)
$x + 2 = \pm 1$

A)
$x = -1$ or $x = -3$

A) Original Problem
$x^2 + 3 = -4x$

A)
$x^2 + 4x + 3 = 0$

A)
$x^2 + 4x = -3$

A)
$x^2 + 4x + 4 = -3 + 4$

A)
$(x + 2)^2 = 1$

A)
$x + 2 = \pm 1$

A)
$x = -1$ or $x = -3$

A) Original Problem
$x^2 + 3 = -4x$

A)
$x^2 + 4x + 3 = 0$

A)
$x^2 + 4x = -3$

A)
$x^2 + 4x + 4 = -3 + 4$

A)
$(x + 2)^2 = 1$

A)
$x + 2 = \pm 1$

A)
$x = -1$ or $x = -3$

B) Original Problem
$x^2 = 5x + 2$

B)
$x^2 - 5x - 2 = 0$

B)
$x^2 - 5x = 2$

B)
$x^2 - 5x + \frac{25}{4} = 2 + \frac{25}{4}$

B)
$(x - \frac{5}{2})^2 = \frac{33}{4}$

B)
$x - \frac{5}{2} = \frac{\pm\sqrt{33}}{2}$

B)
$x = \frac{5}{2} \pm \frac{\sqrt{33}}{2}$ or $\frac{5 \pm\sqrt{33}}{2}$

B) Original Problem
$x^2 = 5x + 2$

B)
$x^2 - 5x - 2 = 0$

B)
$x^2 - 5x = 2$

B)
$x^2 - 5x + \frac{25}{4} = 2 + \frac{25}{4}$

B)
$(x - \frac{5}{2})^2 = \frac{33}{4}$

B)
$x - \frac{5}{2} = \frac{\pm\sqrt{33}}{2}$

B)
$x = \frac{5}{2} \pm \frac{\sqrt{33}}{2}$ or $\frac{5 \pm\sqrt{33}}{2}$

B) Original Problem
$x^2 = 5x + 2$

B)
$x^2 - 5x - 2 = 0$

B)
$x^2 - 5x = 2$

B)
$x^2 - 5x + \frac{25}{4} = 2 + \frac{25}{4}$

B)
$(x - \frac{5}{2})^2 = \frac{33}{4}$

B)
$x - \frac{5}{2} = \frac{\pm\sqrt{33}}{2}$

B)
$x = \frac{5}{2} \pm \frac{\sqrt{33}}{2}$ or $\frac{5 \pm\sqrt{33}}{2}$

B) Original Problem
$x^2 = 5x + 2$

B)
$x^2 - 5x - 2 = 0$

B)
$x^2 - 5x = 2$

B)
$x^2 - 5x + \frac{25}{4} = 2 + \frac{25}{4}$

B)
$(x - \frac{5}{2})^2 = \frac{33}{4}$

B)
$x - \frac{5}{2} = \frac{\pm\sqrt{33}}{2}$

B)
$x = \frac{5}{2} \pm \frac{\sqrt{33}}{2}$ or $\frac{5 \pm\sqrt{33}}{2}$

C) Original Problem
$2x^2 - 12x + 10 = 0$

C) Original Problem
$2x^2 - 12x + 10 = 0$

C) Original Problem
$2x^2 - 12x + 10 = 0$

C)
$2x^2 - 12x = -10$

C)
$x^2 - 6x = -5$

C)
$x^2 - 6x + 9 = -5 + 9$

C)
$(x - 3)^2 = 4$

C)
$x - 3 = \pm 2$

C)
$x = 5$ or $x = 1$

C)
$2x^2 - 12x = -10$

C)
$x^2 - 6x = -5$

C)
$x^2 - 6x + 9 = -5 + 9$

C)
$(x - 3)^2 = 4$

C)
$x - 3 = \pm 2$

C)
$x = 5$ or $x = 1$

C) Original Problem
$2x^2 - 12x + 10 = 0$

C)
$2x^2 - 12x = -10$

C)
$x^2 - 6x = -5$

C)
$x^2 - 6x + 9 = -5 + 9$

C)
$(x - 3)^2 = 4$

C)
$x - 3 = \pm 2$

C)
$x = 5$ or $x = 1$

C) Original Problem
$2x^2 - 12x + 10 = 0$

C)
$2x^2 - 12x = -10$

C)
$x^2 - 6x = -5$

C)
$x^2 - 6x + 9 = -5 + 9$

C)
$(x - 3)^2 = 4$

C)
$x - 3 = \pm 2$

C)
$x = 5$ or $x = 1$

Original Problem

$ax^2 + bx + c = 0$

$ax^2 + bx = -c$

$x^2 + \frac{b}{a}\,x = \frac{-c}{a}$

$x^2 + \frac{b}{a}\,x + \frac{b^2}{4a^2} = \frac{b^2}{4a^2} - \frac{c}{a}$

$(x + \frac{b}{2a})^2 = \frac{b^2 - 4ac}{4a^2}$

$x + \frac{b}{2a} = \frac{\pm\sqrt{b^2 - 4ac}}{2a}$

$x = \frac{-b}{2a} \pm \frac{\sqrt{b^2 - 4ac}}{2a}$ or $\frac{-b \pm\sqrt{b^2 - 4ac}}{2a}$

Original Problem

$ax^2 + bx + c = 0$

$ax^2 + bx = -c$

$x^2 + \frac{b}{a}\,x = \frac{-c}{a}$

$x^2 + \frac{b}{a}\,x + \frac{b^2}{4a^2} = \frac{b^2}{4a^2} - \frac{c}{a}$

$(x + \frac{b}{2a})^2 = \frac{b^2 - 4ac}{4a^2}$

$x + \frac{b}{2a} = \frac{\pm\sqrt{b^2 - 4ac}}{2a}$

$x = \frac{-b}{2a} \pm \frac{\sqrt{b^2 - 4ac}}{2a}$ or $\frac{-b \pm\sqrt{b^2 - 4ac}}{2a}$

Original Problem

$ax^2 + bx + c = 0$

$ax^2 + bx = -c$

$x^2 + \frac{b}{a}\,x = \frac{-c}{a}$

$x^2 + \frac{b}{a}\,x + \frac{b^2}{4a^2} = \frac{b^2}{4a^2} - \frac{c}{a}$

$(x + \frac{b}{2a})^2 = \frac{b^2 - 4ac}{4a^2}$

$x + \frac{b}{2a} = \frac{\pm\sqrt{b^2 - 4ac}}{2a}$

$x = \frac{-b}{2a} \pm \frac{\sqrt{b^2 - 4ac}}{2a}$ or $\frac{-b \pm\sqrt{b^2 - 4ac}}{2a}$

** R. Greenlee Wheaton Warrenville South High School, Wheaton IL. 04/05/00 **