

$$\begin{aligned}
 \text{b)} \quad & 5x^2 + 10x - 3 = 0 \\
 & 5x^2 + 10x = 3 \\
 & 5(x^2 + 2x) = 3 \\
 & 5(x^2 + 2x + 1) = 3 + 1 \\
 & 5(x+1)^2 = 4 \\
 & (x+1)^2 = \frac{4}{5} \\
 & x+1 = \pm \sqrt{\frac{4}{5}} \\
 & x = -1 \pm \frac{2}{\sqrt{5}} \\
 & x = -1 \pm \frac{2\sqrt{5}}{5}
 \end{aligned}$$

$$\begin{aligned}
 \text{g)} \quad & 4x^2 + 5x - 2 = 0 \\
 & 4x^2 + 5x = 2 \\
 & 4\left(x^2 + \frac{5}{4}x\right) = 2 \\
 & 4\left(x^2 + \frac{5}{4}x + \frac{25}{64}\right) = 2 + \frac{25}{16} \\
 & 4\left(x + \frac{5}{8}\right)^2 = \frac{57}{16} \\
 & \left(x + \frac{5}{8}\right)^2 = \frac{57}{64} \\
 & x + \frac{5}{8} = \pm \sqrt{\frac{57}{8}} \\
 & x = -\frac{5}{8} \pm \sqrt{\frac{57}{8}}
 \end{aligned}$$

F)

$$x^2 + 8x + 15 = 0$$

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

$$(x^2 + 8x + 4) = -15 + 4$$

$$(x+4)^2 = -11$$

$$x+4 = \pm\sqrt{-11}$$

$$x = -4 \pm \sqrt{-11}$$

$$x = -4 \pm \sqrt{11}i$$

K)

$$3x^2 - 4x - 6 = 0$$

$$3x^2 - 4x = 6$$

$$3(x^2 - 4x) = 6$$

$$3(x^2 - 4x + 4) = 6 + 12$$

$$3(x-2)^2 = 18$$

$$(x-2)^2 = 6$$

$$x-2 = \pm\sqrt{6}$$

$$x = 2 \pm \sqrt{6}$$

$$I) 5x^2 + 3x - 2 = 0$$

$$x = \frac{-3 \pm \sqrt{3^2 - 4(5)(-2)}}{2(5)}$$

$$x = \frac{-3 \pm \sqrt{9 - 40}}{10}$$

$$x = \frac{-3 \pm \sqrt{-31}}{10}$$

$$x = \frac{-3 \pm \sqrt{31}i}{10}$$

E)

$$4x^2 - 6x + 1 = 0$$

$$x = \frac{6 \pm \sqrt{(-6)^2 - 4(4)(1)}}{2(4)}$$

$$x = \frac{6 \pm \sqrt{36 - 16}}{8}$$

$$x = \frac{6 \pm \sqrt{20}}{8}$$

$$x = \frac{6 \pm 2\sqrt{5}}{8}$$

$$x = \frac{3 \pm \sqrt{5}}{4}$$

D)

$$3x^2 - 5x + 2 = 0$$

$$x = \frac{5 \pm \sqrt{-5^2 - 4(3)(2)}}{2(3)}$$

$$x = \frac{5 \pm \sqrt{-25 - 24}}{6}$$

$$x = \frac{5 \pm \sqrt{-49}}{6}$$

$$x = \frac{5 \pm 7i}{6}$$

C)

$$2x^2 - 4x - 5 = 0$$

$$x = \frac{-4 \pm \sqrt{(-4)^2 - 4(2)(-5)}}{2(2)}$$

$$x = \frac{-4 \pm \sqrt{16 + 40}}{4}$$

$$x = \frac{-4 \pm \sqrt{56}}{4}$$

$$x = \frac{-4 \pm 2\sqrt{14}}{4}$$

$$x = \frac{-2 \pm \sqrt{14}}{2}$$

H)

$$x^2 - 16x - 24 = 0$$

$$(x-6)(x-4) = 0$$

$$x=6, x=4$$

A)

$$x^2 - 36 = 0$$

$$(x-6)(x+6) = 0$$

$$x=6$$

L)

$$24x^2 + 42x - 18 = 0$$

$$\Leftrightarrow (4x^2 + 42x - 18) = 0$$

$$\Leftrightarrow (2x + 2)(2x - 9) = 0$$

$$2x + 2 = 0 \quad 2x - 9 = 0$$

$$x = -1$$

$$x = 9/2$$

J)

$$x^2 - 14x + 49 = 0$$

$$(x - 7)(x - 7) = 0$$

$$x = 7$$