



$$-7x^2 + 14x + 21 = 0$$

$$x = \frac{-(-14) \pm \sqrt{(-14)^2 - 4(-7)(21)}}{2(-7)}$$

$$x = \frac{-14 \pm \sqrt{196 + 588}}{-14}$$

$$x = \frac{-14 \pm \sqrt{784}}{-14}$$

$$\frac{-14 \pm 28}{-14}$$

$$x = \frac{14 \pm 28}{-14}$$

$$x = \frac{14 - 28}{-14}$$

$$x = \frac{14}{-14}$$

$$x = \frac{-42}{-14}$$

$$x = -1$$

$$x = 3$$

$$2. 2x^2 - 14x + 24 = 0$$

$$x = \frac{-(-14) \pm \sqrt{14^2 - 4(2)(24)}}{2(2)}$$

$$x = \frac{14 \pm \sqrt{196 - 192}}{4}$$

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

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

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

$$= \frac{12}{4}$$

$$x = \frac{14 + 2}{4}$$

$$x = \frac{16}{4}$$

$$x = 3$$

$$x = 4$$

$$-7x + 63 = 0$$

$$3. -7x + x + 63 = 0$$

$$x = \frac{-(-1) \pm \sqrt{(-1)^2 - 4(7)(63)}}{2(-7)}$$

$$x = \frac{-1 \pm \sqrt{1 + 1764}}{-14}$$

$$x = \frac{-1 \pm \sqrt{1765}}{-14}$$

$$x = \frac{-1 \pm 42}{14}$$

$$x = \frac{-1 + 42}{-14}$$

$$x = \frac{1 - 42}{14}$$

$$x = \frac{41}{-14}$$

$$x = \frac{-41}{-14}$$

$$x = -3$$

$$x = 3$$

$$4x^2 - 7x - 4 = 0$$

$$x = \frac{-(-7) \pm \sqrt{(-7)^2 - 4(4)(-4)}}{2(4)}$$

$$x = \frac{7 \pm \sqrt{49 + 16}}{2}$$

$$x = \frac{7 \pm \sqrt{65}}{2}$$

$$= \frac{7 \pm 65}{2} = \frac{\sqrt{65}}{\sqrt{2}} = \frac{\sqrt{65}}{4}$$

$$= \frac{\sqrt{65}}{2} = \frac{7 \pm 65}{2}$$

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

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

$$x = \frac{2 \pm \sqrt{4 + 20}}{2}$$

$$x = \frac{2 \pm \sqrt{24}}{2}$$

$$x = \frac{1 \pm \sqrt{12}}{2} = \frac{\sqrt{12}}{2} = \frac{\sqrt{12}}{\sqrt{4}}$$

$$= \sqrt{3} = 1 \pm \sqrt{3}$$

$$64x^2 - 24 = 0$$

$$4x^2 - x - 24 = 0$$

$$x = \frac{-(-1) \pm \sqrt{(-1)^2 - 4(4)(-24)}}{2(4)}$$

$$x = \frac{1 \pm \sqrt{1 + 384}}{8}$$

$$x = \frac{1 \pm \sqrt{385}}{8} \text{ (simplified)}$$

$$= \frac{6}{7} = 6 = \pm\sqrt{6}$$

$$72x^2 - 6x - 2 = 4x - 3$$

$$2x^2 - 10x - 1 = 0$$

$$x = \frac{-(-10) \pm \sqrt{(-10)^2 - 4(2)(1)}}{2(2)}$$

$$x = \frac{10 \pm \sqrt{100 - 8}}{4}$$

$$x = \frac{10 \pm \sqrt{92}}{4}$$

$$\frac{5 \pm \sqrt{23}}{2}$$

$$8 - 14x^2 + 4x + 14 = -6x^2$$

$$-8x^2 + 4x + 14 = 0$$

$$x = \frac{-(-4) \pm \sqrt{(-8)^2 - 4(-8)(14)}}{2(-8)}$$

$$x = \frac{4 \pm \sqrt{16 + 448}}{-16}$$

$$x = \frac{4}{16} \pm \frac{\sqrt{464}}{16} = \frac{464}{16} \rightarrow (\text{simplify})$$

$$= 29 = \frac{1 \pm \sqrt{29}}{4}$$