

19a)

23.11.11 @

$$a) \quad 900x^2 = 9 \quad // \quad x^2 = \frac{9}{900} = \frac{1}{100}$$

$$x = \pm \sqrt{\frac{1}{100}} = \begin{cases} x_1 = \frac{1}{10} \\ x_2 = -\frac{1}{10} \end{cases}$$

$$900x^2 - 9 = 0$$

$$b) \quad x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = \frac{0 \pm \sqrt{0^2 - 4 \cdot 900(-9)}}{2 \cdot 900} =$$

$$= \frac{\pm \sqrt{32.400}}{1800} = \frac{\pm 180}{1800} = \begin{cases} x_1 = 1/10 \\ x_2 = -1/10 \end{cases}$$

$$19b) \quad a) \quad -x^2 = -10 \quad // \quad +x^2 = +10 \quad // \quad x = \pm \sqrt{10} = \begin{cases} +\sqrt{10} \\ -\sqrt{10} \end{cases}$$

$$b) \quad -x^2 = -10 \quad // \quad x^2 = 10 \quad // \quad x^2 - 10 = 0$$

$$x = \frac{-b \pm \sqrt{b^2 - 4 \cdot a \cdot c}}{2a} = \frac{0 \pm \sqrt{0 - 4 \cdot 1 \cdot (-10)}}{2} =$$

$$= \frac{\pm \sqrt{40}}{2} = \frac{\pm \sqrt{4 \cdot 10}}{2} = \frac{\pm \sqrt{4} \cdot \sqrt{10}}{2} = \frac{\pm 2\sqrt{10}}{2} = \begin{cases} +\sqrt{10} \\ -\sqrt{10} \end{cases}$$

21a)  $x^2 + 7x = 0$

$x \cdot (x + 7) = 0$

$$\left\{ \begin{array}{l} x_1 = 0 \\ x_2 \rightarrow x + 7 = 0 // x = -7 // x_2 = \underline{\underline{-7}} \end{array} \right.$$

21b)  $6x^2 = 0 // x^2 = \frac{0}{6} // x^2 = 0 // x = \underline{\underline{0}}$

21c)  $-4x^2 + 5x = 0$

$$x(-4x + 5) = 0 \left\{ \begin{array}{l} x_1 = 0 \\ x_2 \rightarrow -4x + 5 = 0 // -4x = -5 \end{array} \right.$$

$$x = \frac{-5}{-4} = \frac{5}{4} // x_2 = \underline{\underline{\frac{5}{4}}}$$

21d)  $-2x^2 + 6x = 0$

$$x(-2x + 6) = 0 \left\{ \begin{array}{l} x_1 = 0 \\ x_2 \Rightarrow -2x + 6 = 0 // -2x = -6 \end{array} \right.$$

$$x = \frac{-6}{-2} = 3 // x_2 = \underline{\underline{3}}$$

21e)  $14x^2 + x = 0$

$$x(14x + 1) = 0 \left\{ \begin{array}{l} x_1 = 0 \\ x_2 \Rightarrow 14x + 1 = 0 // 14x = -1 \end{array} \right.$$

$$x = \frac{-1}{14} // x_2 = \underline{\underline{\frac{-1}{14}}}$$

21f)  $-x^2 = 0 \parallel \underline{\underline{x=0}}$

21g)  $10x^2 - 11x = 0$

$x(10x - 11) = 0$   $\left\{ \begin{array}{l} \underline{\underline{x_1 = 0}} \\ x_2 \Rightarrow 10x - 11 = 0 \parallel x = \frac{+11}{10} \parallel \underline{\underline{x_2 = \frac{11}{10}}} \end{array} \right.$

21h)  $x^2 + 9x = 0$

$x(x+9) = 0$   $\left\{ \begin{array}{l} x_1 = 0 \\ x_2 \Rightarrow x+9 = 0 \parallel \underline{\underline{x_2 = -9}} \end{array} \right.$

21i)  $-x^2 - x = 0$

$x(-x-1) = 0$   $\left\{ \begin{array}{l} \underline{\underline{x_1 = 0}} \\ x_2 \Rightarrow (-x-1) = 0 \parallel -x = 1 \parallel x = -1 \end{array} \right.$

21j)  $9x^2 = 0 \parallel x^2 = \frac{0}{9} = 0 \parallel x^2 = 0 \parallel \underline{\underline{x=0}}$

22a)  $5x(2x-1) = 7x$

$10x^2 - 5x = 7x \parallel 10x^2 - 5x - 7x = 0 \parallel 10x^2 - 12x = 0$

$x(10x - 12) = 0$   $\left\{ \begin{array}{l} x_1 = 0 \\ x_2 \Rightarrow 10x - 12 = 0 \parallel x = \frac{+12}{10} = \underline{\underline{\frac{6}{5}}} \end{array} \right.$

22b)  $(x-2) \cdot (3x+7) = 0$

$x_1 \Rightarrow x-2 = 0 \parallel x_1 = 2$

$x_2 \Rightarrow 3x+7 = 0 \parallel 3x = -7 \parallel \underline{\underline{x_2 = \frac{-7}{3}}}$