

$$1. \frac{2x-5}{5} - 2x = \frac{3x+1}{4} - 3x + \frac{7}{10}$$

$$\frac{8x-20}{20} - \frac{40x}{20} = \frac{15x+5}{20} - \frac{60x}{20} + \frac{14}{20}$$

$$8x-20-40x = 15x+5-60x+14$$

$$8x-40x-15x+60x = 5+14+20$$

$$13x = 39 \Rightarrow x = \frac{39}{13} \Rightarrow \boxed{x=3}$$

$$2. \frac{x-1}{3} - 2x + 4 = x + 1$$

$$\frac{x-1}{3} - \frac{6x}{3} + \frac{12}{3} = \frac{3x+3}{3}$$

$$x-1-6x+12 = 3x+3$$

$$x-6x-3x = 3+1-12$$

$$-8x = -8 \Rightarrow x = \frac{-8}{-8} \Rightarrow \boxed{x=1}$$

$$3. x(x+7) = 18$$

$$x^2 + 7x = 18$$

$$x^2 + 7x - 18 = 0 \rightarrow x = \frac{-7 \pm \sqrt{49 + 72}}{2} = \frac{-7 \pm \sqrt{121}}{2} = \frac{-7 \pm 11}{2}$$

$$\frac{-7+11}{2} = \boxed{2}$$

$$\frac{-7-11}{2} = \boxed{-9}$$

$$4. (x+1)^2 = 0 \Rightarrow x^2 + 2x + 1 = 0$$

$$x = \frac{-2 \pm \sqrt{4-4}}{2} = \frac{-2 \pm 0}{2} \rightarrow \begin{cases} \boxed{-1} \\ \boxed{-1} \end{cases}$$