

$$\begin{aligned} \text{Q}_1 \quad & 4x(1-2x) - (1-2x)(3-x) \\ &= (1-2x)(4x - (3-x)) \\ &= (1-2x)(4x - 3 + x) \\ &= \boxed{(1-2x)(5x-3)} \end{aligned}$$

$$\begin{aligned} \text{Q}_2 \quad & 7a(3-a)^2 + (3-a) \\ &= (3-a)(7a(3-a) + 1) \\ &= \boxed{(3-a)(21a - 7a^2 + 1)} \end{aligned}$$

$$\begin{aligned} \text{Q}_3 \quad & (2n+3)^2 - 16n^2 \\ &= (2n+3)^2 - (4n)^2 \\ &= (2n+3-4n)(2n+3+4n) \\ &= \boxed{(-2n+3)(6n+3)} \end{aligned}$$

$$\begin{aligned} \text{Q}_4 \quad & \frac{3x-2}{4} = 5x \\ & 3x-2 = 20x \\ & 3x-20x = 2 \\ & -17x = 2 \\ & \boxed{x = -\frac{2}{17}} \end{aligned}$$

$$\begin{aligned} \text{Q}_5 \quad & \left(\frac{3x}{5} - 3\right)(2x-7) = 0 \\ & \frac{3x}{5} - 3 = 0 \quad \text{ou} \quad 2x-7 = 0 \\ & \frac{3x}{5} = 3 \quad \quad \quad 2x = 7 \\ & 3x = 15 \quad \quad \quad \boxed{x = \frac{7}{2}} \\ & \boxed{x = \frac{15}{3}} \\ & \boxed{x = 5} \end{aligned}$$

$$\begin{aligned} \text{Q}_6 \quad & 7x^2 = 3x \\ & 7x^2 - 3x = 0 \\ & x(7x-3) = 0 \\ & \boxed{x=0} \quad \text{ou} \quad 7x-3=0 \\ & \quad \quad \quad 7x=3 \\ & \quad \quad \quad \boxed{x = \frac{3}{7}} \end{aligned}$$

$$\begin{aligned} \text{Q}_7 \quad & (1-x)(3+2x) = 3 \\ & 3+2x-3x-2x^2 = 3 \\ & -2x^2-x = 0 \\ & x(-2x-1) = 0 \\ & \boxed{x=0} \quad \text{ou} \quad -2x-1=0 \\ & \quad \quad \quad -2x = 1 \\ & \quad \quad \quad \boxed{x = -\frac{1}{2}} \end{aligned}$$

$$\begin{aligned} \text{Q}_1 \quad & 6x(2-7x) - (2-7x)(2-x) \\ &= (2-7x)(6x - (2-x)) \\ &= (2-7x)(6x - 2 + x) \\ &= \boxed{(2-7x)(7x-2)} \end{aligned}$$

$$\begin{aligned} \text{Q}_2 \quad & 8b(2-b)^2 + (2-b) \\ &= (2-b)(8b(2-b) + 1) \\ &= \boxed{(2-b)(16b - 8b^2 + 1)} \end{aligned}$$

$$\begin{aligned} \text{Q}_3 \quad & (3n+1)^2 - 25n^2 \\ &= (3n+1)^2 - (5n)^2 \\ &= (3n+1-5n)(3n+1+5n) \\ &= \boxed{(-2n+1)(8n+1)} \end{aligned}$$

$$\begin{aligned} \text{Q}_4 \quad & \frac{5x-1}{3} = 2x \\ & 5x-1 = 6x \\ & 5x-6x = 1 \\ & -x = 1 \\ & \boxed{x = -1} \end{aligned}$$

$$\begin{aligned} \text{Q}_5 \quad & \left(\frac{2x}{5} - 2\right)(3x-7) = 0 \\ & \frac{2x}{5} - 2 = 0 \quad \text{ou} \quad 3x-7 = 0 \\ & \frac{2x}{5} = 2 \quad \quad \quad 3x = 7 \\ & 2x = 10 \quad \quad \quad \boxed{x = \frac{7}{3}} \\ & x = \frac{10}{2} \\ & \boxed{x = 5} \end{aligned}$$

$$\begin{aligned} \text{Q}_6 \quad & 5x^2 = 2x \\ & 5x^2 - 2x = 0 \\ & x(5x-2) = 0 \\ & \boxed{x=0} \quad \text{ou} \quad 5x-2=0 \\ & \quad \quad \quad 5x = 2 \\ & \quad \quad \quad \boxed{x = \frac{2}{5}} \end{aligned}$$

$$\begin{aligned} \text{Q}_7 \quad & (2-x)(5+3x) = 10 \\ & 10+6x-5x-3x^2 = 10 \\ & x-3x^2 = 0 \\ & x(1-3x) = 0 \\ & \boxed{x=0} \quad \text{ou} \quad 1-3x=0 \\ & \quad \quad \quad -3x = -1 \\ & \quad \quad \quad \boxed{x = \frac{1}{3}} \end{aligned}$$