

$$3. \frac{x-5}{3} - \frac{x-7}{4} = -\frac{3}{4}x + 9$$

$$\frac{x+5}{6} - \frac{x-7}{3}$$

$$\frac{4(x-5) - 3(x-7)}{12}$$

$$\frac{x+5 - 2(x+7)}{6}$$

$$\frac{4x - 20 - 3x + 21}{12}$$

$$\frac{x+5 - 2x - 14}{6}$$

$$\frac{x+1}{6} = -\frac{3}{4}$$

$$\frac{-x-9}{6}$$

$$\frac{x+1}{2(x-9)} = -\frac{3}{4}$$

$$4(x+1) = -6(-x-9)$$

$$4x+4 = 6x+54$$

$$4x - 6x = 54 - 4$$

$$-2x = 50$$

$$x = -25 \quad x \neq 9$$

$$x = -25$$