9 (A) $\frac{6}{x-3} = \frac{15}{x}$ $\quad x \neq +3; 0$

$\frac{6 \cdot x}{x \cdot (x-3)} = \frac{15 \cdot (x-3)}{x \cdot (x-3)} \quad | \cdot x(x-3)$

$6x = 15(x-3)$

$6x = 15x - 45 \quad | -6x$

$0 = 9x - 45 \quad | +45$

$45 = 9x \quad | : 9$

$5 = x$

$\mathbb{L} = \{5\}$

(B) $\frac{1}{3-x} = \frac{7}{1+x}$ $\quad x \neq +3; -1$

$\frac{1+x}{(3-x)(1+x)} = \frac{7(3-x)}{(3-x)(1+x)} \quad | \cdot (3-x)(1+x)$

$1+x = 7(3-x)$

$1+x = 21 - 7x \quad | +7x$

$8x+1 = 21 \quad | -1$

$8x = 20 \quad | : 8$

$x = 2,5$

$\mathbb{L} = \{2,5\}$

(C)

$$\frac{2}{x+8} = \frac{15}{3-2x} \qquad x \neq -8;\ +1{,}5$$

$$\frac{2\cdot(3-2x)}{(x+8)(3-2x)} = \frac{15\cdot(x+8)}{(x+8)(3-2x)} \quad | \cdot (x+8)(3-2x)$$

$$2\cdot(3-2x) = 15\cdot(x+8)$$

$$6 - 4x = 15x + 120 \quad | +4x$$

$$6 = 19x + 120 \quad | -120$$

$$-114 = 19x \quad | :19$$

$$-6 = x$$

$$\mathbb{L} = \{-6\}$$

(D)

$$\frac{4}{2x+7} = \frac{9}{3-4x} \qquad x \neq -3{,}5;\ +\frac{3}{4}$$

$$\frac{4\cdot(3-4x)}{(2x+7)(3-4x)} = \frac{9\cdot(2x+7)}{(2x+7)(3-4x)} \quad | \cdot (2x+7)(3-4x)$$

$$4\cdot(3-4x) = 9\cdot(2x+7)$$

$$12 - 16x = 18x + 63 \quad | +16x$$

$$12 = 34x + 63 \quad | -63$$

$$-51 = 34x \quad | :34$$

$$-\frac{51^{3}}{34_{2}} = x$$

$$x = -\frac{3}{2} = -1{,}5$$

$$\mathbb{L} = \{-1{,}5\}$$