① $\frac{1}{12x^3y}, \frac{3}{8x^2y^4}$

$12x^3y = 2 \cdot 2 \cdot 3 \cdot x \cdot x \cdot x \cdot y$

$8x^2y^4 = 2 \cdot 2 \cdot 2 \cdot x x \, y y y y$

$LCD = 2 \cdot 2 \cdot 2 \cdot 3 \cdot x \cdot x \cdot x \cdot y \cdot y \cdot y \cdot y$

$= 24x^3y^4$

② $\frac{9}{x+4}, 5$

$\frac{9}{x+4}, \frac{5}{1}$

$x+4 = (x+4)$

$1 = 1$

$LCD = x+4$

③ $\frac{5}{3x-9}, \frac{9}{8x-24}$

$3x-9 = 3(x-3)$ ←

$8x-24 = 8(x-3)$

$= 2 \cdot 2 \cdot 2 \cdot (x-3)$ ←

$LCD = 2 \cdot 2 \cdot 2 \cdot 3 \cdot (x-3)$

$= 24(x-3)$

④ $\frac{1}{x^2-9x+20}, \frac{5}{x^2-16}$

$x^2-9x+20 = (x-4)(x-5)$

$x^2-16 = (x+4)(x-4)$

$LCD = (x-4)(x+4)(x-5)$

⑤ $\frac{1}{x^2+6x+9}, \frac{5}{x^2+4x+3}$

$x^2+6x+9 = (x+3)(x+3)$

$x^2+4x+3 = (x+1)(x+3)$

$LCD = (x+3)(x+3)(x+1)$

$= (x+3)^2(x+1)$

⑥ $\frac{4}{x} = \frac{4 \cdot 5x^2}{5x^3} = \boxed{\frac{20x^2}{5x^3}}$

⑦ $\frac{1}{9bc^2} = \frac{1 \cdot 9 \cdot b \cdot b \cdot c^5}{9^2 b^3 c^7} = \boxed{\frac{9b^2c^5}{9^2b^3c^7}}$

⑧ $x^2-8x+15 = (x-3)(x-5)$

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

$= \boxed{\frac{7x-35}{(x-3)(x-5)}}$

⑨ x^2-5

$\frac{9x}{1} = \frac{9x(x^2-5)}{x^2-5}$

$= \boxed{\frac{9x^3-45x}{x^2-5}}$