

Multiplying / Dividing Sheet

$$a) \frac{2x^2 - 12x}{15x} \cdot \frac{5x}{x-6}$$

$$\frac{2x \cancel{(x-6)}}{15x} \cdot \frac{5x}{\cancel{(x-6)}} \quad x \neq 0, 6$$

$$\frac{10x}{15} = \frac{2x}{3}, \quad x \neq 0, 6$$

$$b) \frac{8x^2}{x-4} \div \frac{8x^2}{16x^4}$$

$$\frac{\cancel{8x^2}}{x-4} \cdot \frac{16x^4}{\cancel{8x^2}}$$

$$\frac{16x^4}{(x-4)}, \quad x \neq 4, 0$$

$$c) \frac{5x(2x-1)}{8}, \quad x \neq 0, -1$$

$$h) \frac{5x^2}{12}, \quad x \neq 0, -3$$

$$d) \frac{3}{4}, \quad x \neq -4, \frac{2}{7}$$

$$i) -y, \quad y \neq 0, \frac{5}{2}$$

$$e) \frac{16x^4}{5}, \quad x \neq -2, 0$$

$$j) -\frac{1}{x}, \quad x \neq 1, 0, -\frac{1}{2}$$

$$f) \frac{3x}{4(x-1)}, \quad x \neq 0, -6, 1$$

$$k) (x-3)(x-3)$$

$$g) \frac{4(2x-1)(x-2)}{x}, \quad x \neq 0, -2, -\frac{1}{2}, 2$$

$$l) \frac{(x+3)(4x-1)}{12x}, \quad x \neq -\frac{1}{4}, 0$$

★ Important

$$\frac{3+2}{2+3} = \frac{5}{5} = 1$$

$$\frac{3-2}{2-3} = \frac{1}{-1} = -1$$

So, $\frac{(x+6)}{(6+x)} = 1$

★ BUT $\frac{(x-6)}{(6-x)} = -1$

$$i) \frac{y^4}{\cancel{5y^2} - \cancel{2y^3}} \cdot \frac{\cancel{2y^3} - \cancel{5y^2}}{y^3} = \frac{-y^4}{y^3} = -y$$