

U1D5_T Extra Practice

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U1D5_T
Extra Prac...

U1D5

Extra Practice

Simplify:

a) $\frac{7a^2b^9c}{28a^4bc^6}$

$$= \frac{b^8}{4a^2c^5}$$

$$a, b, c \neq 0$$

b) $\frac{8y^2-10xy}{2y}$

$$= \frac{2y(4y-5x)}{2y}$$

$$= 4y-5x$$

$$y \neq 0$$

c) $\frac{y^2}{(9y^3-4y^2)}$

$$= \frac{y^2}{y^2(9y-4)}$$

$$= \frac{1}{9y-4}$$

$$y \neq 0, \frac{4}{9}$$

d) $\frac{49x^3-21x^2+7x}{14x}$

$$= \frac{7x(7x^2-3x+1)}{14x}$$

$$= \frac{7x^2-3x+1}{2}$$

$$x \neq 0$$

e) $\frac{3-2x}{4x-6}$

$$= \frac{-(2x-3)}{2(2x-3)}$$

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

$$x \neq \frac{3}{2}$$

f) $\frac{6n^2-7n-3}{12n^2+7n+1}$

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

$$= \frac{2n-3}{4n+1}$$

$$n \neq -\frac{1}{3}, -\frac{1}{4}$$

g) $\frac{5a^2}{13b} \times \frac{4b^3}{7a^4}$

$$= \frac{20a^2b^3}{91a^4b}$$

$$= \frac{20b^2}{91a^2}$$

$$a, b \neq 0$$

h) $\frac{k^2}{8l^3m} \div \frac{3k}{4lm}$

$$= \frac{k^2 \cancel{(4)} \cancel{lm}^1}{8 \cancel{l^3}^2 m \cancel{(3k)}^1}$$

$$= \frac{k}{6l^2}$$

$$k, l, m \neq 0$$

i) $\frac{3x-3}{2x+2} \times \frac{5x+5}{6x-6}$

$$= \frac{\cancel{3}(\cancel{x-1})}{2(\cancel{x+1})} \times \frac{5(\cancel{x+1})}{\cancel{6}(\cancel{x-1})}$$

$$= \frac{5}{4}, x \neq \pm 1$$

j) $\frac{2y^2-5y-3}{2y^2-5y+2} \div \frac{y^2-4y+3}{2y^2+3y-2}$

$$= \frac{2y^2-5y-3}{2y^2-5y+2} \times \frac{2y^2+3y-2}{y^2-4y+3}$$

$$= \frac{(\cancel{y-3})(2y+1)(y+2)(\cancel{2y-1})}{(\cancel{y-2})(\cancel{2y-1})(y-1)(\cancel{y-3})}$$

$$= \frac{(2y+1)(y+2)}{(y-2)(y-1)}, y \neq 2, \frac{1}{2}, 1, 3$$