

7.3 Multiplying and Dividing Rational Expressions

Fractions Review:

$$\frac{2}{3} \times \frac{4}{5} = \frac{8}{15}$$

$$\frac{7}{8} \div \frac{5}{4}$$

$$\frac{7}{8} \times \frac{4}{5} = \frac{28}{40} = \frac{7}{10}$$

May 17-3:36 PM

Steps:

1. Factor numerators and denominators
2. Simplify anything possible
3. Multiply your numerators and denominators

4. Simplify if possible.

$$\frac{\cancel{b}}{\cancel{12}} \times \frac{\cancel{3}a}{2\cancel{b}}$$

4

$$\frac{a}{8b}$$

May 17-3:39 PM

$$\frac{12x^2}{15} \div \frac{3x}{2y}$$

$$= \frac{\overset{4}{\cancel{12}}x^{\cancel{2}}}{15} \times \frac{2y}{\cancel{3}\cancel{x}}$$

$$= \frac{8xy}{15}$$

May 17-3:42 PM

$$\frac{\overset{2}{\cancel{6}}m^{\cancel{2}}(m+1)}{\overset{5}{\cancel{15}}\cancel{n}(n-1)} \times \frac{\cancel{2}(n-1)}{\cancel{m}n}$$

$$= \frac{4m(m+1)}{5n}$$

May 17-3:45 PM

$$\frac{14(y-1)}{15y^2} \div \frac{y(y-1)}{5(y+2)}$$

$$\frac{\cancel{14}(y-\cancel{1})}{\cancel{15}y^2} \times \frac{\cancel{5}(y+2)}{y\cancel{(y-1)}}$$

$$= \frac{14(y+2)}{3y^3}$$

May 17-3:46 PM

$$\frac{x^2+5x+6}{x^2+x-2} \times \frac{x+1}{x+3}$$

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

$$= \frac{(x+1)}{(x-1)}$$

May 17-3:46 PM

$$\frac{12m^2-3}{2m^2n-2mn^2} \div \frac{2m+1}{5mn-5n^2}$$

$$\frac{12m^2-3}{2m^2n-2mn^2} \times \frac{5mn-5n^2}{2m+1}$$

$$= \frac{3(4m^2-1)}{2m^2 \cancel{(m-n)}} \times \frac{5 \cancel{n} (m-n)}{2m+1}$$

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

$$= \frac{15(2m-1)}{2m}$$

May 17-3:46 PM

Assignment:**Pg. 414****3 and 5 odds****10, 12 and 15 odds**

May 17-3:47 PM