Multiplying and Dividing Rational Expressions

Review of Reducing!

Simplify each of the following and state the restrictions on the variables:

1) $\frac{3m^2-2mx-x^2}{3m^2-mx}$ 2) $\frac{2x^2(2x-3y)(x+y)}{6x^5-6x^3y^2}$ 3) $\frac{-12x^4a^5}{18x^7a^3}$ (monomials)

Multiplying and Dividing Rational Expressions!

Simplify each of the following and state the restrictions on the variables:

1) $\frac{3x^2y^3}{8}\times\frac{2x^4y^5}{9x^6y^2}$ 2) $\frac{6m^3n^4}{5k^4p^5}\div\frac{18m^5n^2}{20k^5}$ 3) $\frac{5y-10}{y+1}\times\frac{y+1}{10}$

4) $\frac{x^2-4}{x+3}\div\frac{4x-8}{3x+9}$ 5) $\frac{a^2+7a+12}{a^2+4a+4}\times\frac{a^2-a-6}{a^2-9}$ 6) $\frac{x^2-xy-20y^2}{x^2-8xy+15y^2}\div\frac{x^2+2xy-8y^2}{x^2-xy-6y^2}$

7) Express the area of a rectangle in simplest form given it has a length of $\frac{x^3-4x}{x^2+5x+6}$ and a width of $\frac{x^2-9}{x}$.

8) Textbook page 123 #8 ☺