

Lessons 5.2 and 5.3 Quiz Review

Simplify each rational expression. Identify any x - value(s) for which the expression is undefined.

(*Hint* set the original denominator equal to zero and solve)

$$1) \frac{16x^2y^5}{72x^3}$$



$$2) \frac{7x^2+2x-5}{14x-10}$$

$$3) \frac{14v^2-14v}{35v^2-28v}$$

$$4) \frac{x^2+11x+28}{x^2+17x+70}$$

Multiply or divide each rational expression.

$$5) \frac{5x^2}{x^2+3x-70} \div \frac{1}{x-7}$$



$$6) \frac{k-3}{3} \cdot \frac{5k^3-25k^2}{k^2-8k+15}$$



$$7) \frac{k-8}{k^2+14x+45} \cdot \frac{8k^3+72k^2}{k-8}$$

$$8) \frac{6n+30}{7n+56} \div \frac{6n+24}{n^2+11n+24}$$

Add or subtract each rational expression. Identify any x - value(s) for which the expression is undefined. (*Hint* set the original denominator equal to zero and solve)

9)
$$\frac{6p-2}{p^2+11p+30} - \frac{2p+5}{p^2+11p+30}$$



10)
$$\frac{2x}{x^2-1} - \frac{6x}{x-1}$$



11)
$$\frac{x}{x-2} + \frac{4}{x^2-6x+8}$$

12)
$$\frac{3x-2}{x+2} + \frac{16x}{x^2-4}$$

Solve each equation. Check your solution.

$$13) \frac{p^2 - 2p - 24}{p - 6} = 10$$



$$14) \frac{9x^2 + 18x}{x + 2} = 27$$

$$15) \frac{p^2 - 5p - 24}{p - 8} = 7$$

$$16) \frac{7x^2 - 34x - 5}{x - 5} = 36$$