Name: _____

Multiplying and Dividing Rational Expressions

Exercise 1: Find each of the following quotients and write your answer in simplest form.

1) $\frac{x^2-9}{x-1} \div \frac{x+3}{x^2-2x+1}$

2) $\frac{x^2+9}{x^2-1} \div \frac{x+3}{x^2-2x+1}$

3) $\frac{4x^2-9}{x^2-10x+25} \div \frac{2x-3}{x-5}$

4) $\frac{x^2-3x-10}{x^2-3x-28} \div \frac{x^2-x-6}{x^2+x-12}$

5) $\frac{x^2+4x+4}{x^2-6x-16} \div \frac{x^2-8x-20}{x^2-9x+8}$

6) $\frac{6x^2+x-1}{6x^2+5x+1} \div \frac{3x^2+2x-1}{3x^2+4x+1}$

7) $\frac{10x^2-17x+6}{5x^2+4x-12} \div \frac{6x^2+5x-4}{3x^2-2x-8}$

8) $\frac{am-an+bm-bn}{am+an-bm-bn} \div \frac{am-an-3bm+3bn}{am+an-3bm-3bn}$

9) $\frac{cx-2dx+cy-2dy}{x^2+x-3xy-3y} \div \frac{cx+cy+5dx+5dy}{cx+5dx+c+5d}$

Exercise 2: If the length of a rectangle is represented by $\frac{4x^2+16x}{3x+2}$ and its width is represented by $\frac{6x+4}{x^2+4x}$, what is the area of the rectangle?