

Math 0406

Multiply and divide rational expressions

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

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

$$3) \frac{2xz^2}{3ac^3} \cdot \frac{6a^2bc}{x^2yz}$$

$$4) \frac{a^2b}{x^2-x-6} \cdot \frac{x+2}{a^3b^2}$$

$$5) \frac{2x^3-x^2}{x^3z} \cdot \frac{xz^3}{10x^4-5x^3}$$

$$6) \frac{1}{x-4} \cdot \frac{4-x}{3}$$

$$7) \frac{x^2-3x+2}{x^2-4x+3} \cdot \frac{x^2-7x+12}{x^2-6x+8}$$

$$8) \frac{x^2+x-6}{x^2+x-20} \div \frac{x^2+3x-10}{2x^2-7x-4}$$

$$9) \frac{3x^2+5x-2}{2x^2-7x-4} \div \frac{3x^2+2x-1}{2x^2+5x+2}$$

$$10) \frac{x^2-16}{2x^2+5x-3} \div \frac{x^2+3x-4}{1+x-6x^2}$$

Solutions:

1) $\frac{3}{2}$

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

3) $\frac{4abz}{c^2xy}$

4) $\frac{1}{ab(x-3)}$

5) $\frac{z^2}{5x^3}$

6) $\frac{-1}{3}$

7) 1

8) $\frac{(x+3)(2x+1)}{(x+5)^2}$

9) $\frac{(x+2)^2}{(x-4)(x+1)}$

10) $\frac{-(x-4)(3x+1)}{(x+3)(x-1)}$