# Rational Expressions

| SIMPLIFY Monomials<br><br>$\dfrac{12y^2}{3y^5}$　　$\dfrac{12x^2y^3}{2x^6y^2z}$ | 1)Cancel Factors | A) $\dfrac{\cancel{12}^4 \cancel{12}y^2}{\cancel{3}y^{\cancel{5}3}} = \boxed{\dfrac{4}{y^3}}$　　B) $\dfrac{\cancel{6}12x^{\cancel{2}}y^{\cancel{3}4}}{\cancel{2}x^{\cancel{6}}y^{\cancel{2}}z}$ $\boxed{\dfrac{6y}{x^4z}}$ |
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| SIMPLIFY Polynomials<br><br>$\dfrac{x^2-4}{x+2}$　　$\dfrac{10}{x^2-6x+5}$ | 1)Factor<br>2)Cancel Factors | C) $\dfrac{x^2-4}{x+2} = \dfrac{(x+2)(x-2)}{(x+2)}$　$\boxed{x-2}$ |
| MULTIPLY Monomials<br><br><br>$\dfrac{2x^4y^5}{3x^2} \cdot \dfrac{15x^2}{8x^3y^2}$ | 1) Cancel Factors<br>2) Multiple Numerators, then Denominators | D) $\dfrac{\cancel{12}x^4y^5}{\cancel{3}x^2} \cdot \dfrac{\cancel{15}x^2}{\cancel{8}x^3y^2} = \boxed{\dfrac{5x^2y^3}{4}}$ |
| MULTIPLY Polynomials<br><br><br>$\dfrac{x^2-4}{x+2} \cdot \dfrac{x-3}{x-2}$ | 1) FACTOR<br>2)Cancel Factors<br>3) Multiple Numerators, then Denominators | E) $\dfrac{x^2-4}{x+2} \cdot \dfrac{x-3}{x-2}$<br>$\dfrac{(x+2)(x-2)(x-3)}{(x+2)(x-2)} = \boxed{x-3}$ |

| **DIVIDE** **Monomials** $\dfrac{4x^3}{9x^2y} \div \dfrac{16}{9y^5}$ | 1) Flip Fraction after $\div$<br>2) Cancel Factors<br>3) Multiple Numerators, then Denominators | F) $\dfrac{4x^3}{9x^2y} \div \dfrac{16}{9y^5}$<br><br>$\dfrac{4x^3}{9x^2y} \cdot \dfrac{9y^4}{16_4} = \boxed{\dfrac{xy^4}{4}}$ |
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| **DIVIDE** **Polynomials** $\dfrac{x^2-4}{x+2} \div \dfrac{x-3}{x-2}$ | 1) Flip Fraction after $\div$<br>2) Factor<br>3) Cancel Factors<br>4) Multiple Numerators, then Denominators | G) $\dfrac{x^2-4}{x+2} \div \dfrac{x-3}{x-2}$<br><br>$\dfrac{(x+2)(x-2)}{x+2} \cdot \dfrac{x-2}{x-3} = \boxed{\dfrac{(x-2)^2}{x-3}}$ |