

Multiplying and Dividing Rational Expressions Bell Work

Multiply the following rational expressions.

1. $\frac{3x}{y} \times \frac{5}{x}$

2. $\frac{x-4}{y} \times \frac{y}{x^2-16}$

3. $3c-12 \times \frac{6c}{c^2-16}$

4. $\frac{x^2-x-6}{x^2+2x-15} \times \frac{x^2-25}{x^2-4x-5}$

Divide the following rational expressions:

5. $\frac{10m^6}{3m^2} \div \frac{27m^3}{81m}$

6. $\frac{10x^2y}{m+3} \div \frac{15xy^2}{3+m}$

7. $\frac{4c+4}{c^2-25} \div \frac{20}{c^2-5c}$

8. $\frac{y^2-y-20}{y^2+7y+12} \div \frac{y^2-7y+10}{y^2+9y+18}$

Perform the indicated operation on the rational expressions.

9. $\frac{24x^2y^3}{39z^2} \times \frac{25x^3z^3}{18y^4} \div \frac{15x^4}{26x^2y^2}$

10. $\frac{x^2y-xy}{y^2-1} \times \frac{y^3+y^2}{x^3-x^2} \div \frac{y^2}{y-1}$