

Name: Key

Polynomial & Rational Functions Quiz Review

Simplify each of the following.

1. $\frac{x+6}{9x} \div \frac{x^2+10x+24}{2x+8} = \frac{2}{9x}$

2. $\frac{10p^2}{7p} \cdot \frac{30p^2-12p}{50p^3-20p^2} = \frac{6}{7}$

3. $\frac{x^2+9x+8}{8x^2+8x} \div \frac{x^2+2x-48}{4x^2-24x} = \frac{1}{2}$

4. $\frac{3}{6x^2+12x} - \frac{4}{2x} = \frac{-(4x+7)}{2x(x+2)}$

Solve each of the following. Find all real and complex zeros.

5. $\frac{2}{k+6} + \frac{1}{k^2+7k+6} = \frac{3k-15}{k^2+7k+6}$
 $k=19$

6. $4x^3 - 8x^2 + x - 2 = 0$
 $x=2 \quad x = \pm \frac{1}{2}i$

7. $x^3 - 1 = 0$
 $x=1 \quad x = \frac{-1 \pm i\sqrt{3}}{2}$

8. $2x^4 - 5x^2 - 3 = 0$
 $x = \pm\sqrt{3} \quad x = \pm i\sqrt{\frac{1}{2}} = \pm i\frac{\sqrt{2}}{2}$

Sketch a graph for the following polynomials.

