

Chapter Review and 1 Review Packet
Honors Advanced Algebra with Trig

1. Simplify the following:

a. $\frac{72r^2+59r+12}{8r+3}$

2. Factor as completely as possible:

a. $7z^2 - 9z^3 + z$

c. $x^3 + 125$

b. $169y^2 - 1$

d. $15mp + 9mq - 10np - 6nq$

3. Perform the indicated operations:

a. $\frac{27m^3-n^3}{3m-n} \div \frac{9m^2+3mn+n^2}{9m^2-n^2}$

b. $\frac{k^2+k}{8k^3} \cdot \frac{4}{k^2-1}$

c. $\frac{3}{x^2-4x+3} - \frac{2}{x^2-1}$

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d. $\frac{5}{a^2+3a+2} + \frac{5a+1}{a+2}$

e. $\frac{\frac{3}{x-4}-2}{5+\frac{2}{x+4}}$

4. Simplify each expression. Write answers without negative exponents. Assume all variables represent positive real numbers.

a. $(-6x^2y^{-3}z^2)^{-2}$

b. $\frac{a^{-6}(a^{-8})}{a^{-2}(a^{11})}$

c. $\left(\frac{25m^3n^5}{m^{-2}n^6}\right)^{-\frac{1}{2}}$

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d. $\frac{\sqrt[4]{8p^2q^5} \cdot \sqrt[4]{2p^3q}}{\sqrt[4]{p^5q^2}}$

f. $\frac{2}{7-\sqrt{3}}$

e. $\sqrt{18p^2} - p\sqrt{128} + \sqrt{8p^2}$