

Name: _____

Date: _____ Period: _____

Simplifying, Multiplying, and Dividing Rational Expressions

Simplify the expressions below.

1. $\frac{n^2+7n}{4n^2+28n}$

2. $\frac{1-9w^2}{12w-4}$

3. $\frac{x^2-10x-24}{x+2}$

4. $\frac{y^2-36}{5y^2-26y-24}$

Find the product. Give your answer in simplest form.

5. $\frac{32x^3y}{5xy^2} \cdot \frac{15y}{8x^2y^4}$

6. $\frac{m^2-6m+8}{2m-2} \cdot \frac{10}{m-4}$

7. $\frac{28n+40}{35n+50} \cdot \frac{12n+24}{8n+16}$

8. $\frac{6c^2+13c-63}{6c^2-17c+7} \cdot \frac{2c^2-9c+4}{12c+54}$

Find the quotient. Give your answer in simplest form.

9. $\frac{14m^4}{3m} \div \frac{7m^2}{18m^5}$

10. $\frac{2a^2+14a}{8a^2} \div (10a + 70)$

11. $\frac{1-h^2}{2h^2-10h-12} \div \frac{2h-2}{6}$

12. $\frac{2r+2}{r+2} \div \frac{4r^2+8r+4}{12r+12}$