

**Multiplying and Dividing Rational Expressions**

Simplify each expression.

1.  $\frac{21x^3y}{14x^2y^2}$

2.  $\frac{5ab^3}{25a^2b^2}$

3.  $\frac{(x^6)^3}{(x^3)^4}$

4.  $\frac{8y^2(y^6)^3}{4y^{24}}$

5.  $\frac{18}{2x - 6}$

6.  $\frac{x^2 - 4}{(x - 2)(x + 1)}$

7.  $\frac{3a^2 - 24a}{3a^2 + 12a}$

8.  $\frac{3m}{2n} \cdot \frac{n^3}{6}$

9.  $\frac{24e^3}{5f^2} \cdot \frac{10(ef)^3}{8e^5f}$

10.  $\frac{5s^2}{s^2 - 4} \cdot \frac{s + 2}{10s^5}$

11.  $\frac{12}{5y^2} - \frac{2}{5yz}$

12.  $\frac{7}{4gh} + \frac{3}{4h^2}$

13.  $\frac{2}{a + 2} - \frac{3}{2a}$

14.  $\frac{5}{3b + d} - \frac{2}{3bd}$

15.  $\frac{3}{w - 3} - \frac{2}{w^2 - 9}$

16.  $\frac{3t}{2 - x} + \frac{5}{x - 2}$

17.  $\frac{m}{m - n} - \frac{m}{n - m}$

18.  $\frac{4z}{z - 4} + \frac{z + 4}{z + 1}$