

**DIRECTIONS:** Write in simplest form without negative or zero exponents. Assume that no denominator equals 0.

1.  $(3 \cdot 5)^{-1}$

2.  $(-2^{-2})^{-1}$

3.  $5^{-1}(3^{-2} \cdot 2^{-3})^0$

4.  $(\frac{3}{4})^{-1}(\frac{4}{3})^{-2}$

5.  $\frac{p^{-1}q^{-2}}{p^{-3}}$

6.  $\frac{6xy^{-1}}{-2x^{-2}y^{-1}}$

7.  $(\frac{2}{h^2k^{-3}})^{-2}$

8.  $\frac{(3x^{-2}y)^{-1}}{(2xy^{-2})^0}$

9.  $5t(s^{-1}t^{-2})^{-2}$

10.  $(\frac{2pq^{-1}}{4q^2})^{-1}$

11.  $(\frac{3}{t^2})^{-1}(\frac{t}{3})^{-2}$

**DIRECTIONS:** Simplify. Assume that no denominator equals 0.

12.  $\frac{5t^3}{15t^5}$

13.  $\frac{30x^2y^3}{-6x^3y^2}$

14.  $\frac{48x^5y^5}{32x^4y^6}$

15.  $(\frac{2x^2}{-y})^4$

$$16. \quad \frac{2u}{v^2} \cdot \frac{3u}{2v^2}$$

$$17. \quad \frac{xy^2}{2} \cdot \frac{6x}{y^2}$$

$$18. \quad \frac{a^2b^3c}{a^3bc^2}$$

$$19. \quad \left(\frac{2x^2}{y^3}\right)\left(\frac{-y^3}{2x^2}\right)^2$$

$$20. \quad \frac{(2hk^3)^3}{(-h^2k^2)^2}$$

$$21. \quad \frac{(pq^2r^3)^3}{(p^3qr^2)^2}$$

$$22. \quad \left(\frac{4x^2}{yz^2}\right)\left(\frac{z}{2x}\right)^3$$

$$23. \quad \left(\frac{-4a^2}{3b}\right)^2 \left(\frac{-b}{2a}\right)$$

$$24. \quad \frac{x^{n+1}y^n}{x^ny^{n-1}}$$

$$25. \quad \frac{(z^n)^3}{z^nz^3}$$

$$26. \quad \frac{a^{n-1}b^{2n}}{a^{n+1}(b^2)^{n-1}}$$