

Fractional Exponents

Directions: Evaluate each expression.

1. $36^{\frac{1}{2}}$

2. $27^{\frac{2}{3}}$

3. $25^{\frac{3}{2}}$

4. $\left(\frac{81}{16}\right)^{\frac{3}{4}}$

5. $(64)^{-\frac{2}{3}}$

6. $\left(\frac{27}{8}\right)^{-\frac{2}{3}}$

7. $\left(-\frac{1000}{729}\right)^{\frac{2}{3}}$

Directions: Simplify each expression.

8. $\left(3x^{\frac{2}{5}}\right)\left(2x^{\frac{1}{2}}\right)$

9. $\frac{x^{\frac{4}{3}}y^{\frac{2}{3}}}{(xy)^{\frac{1}{3}}}$

10. $\frac{5^{-\frac{1}{2}} \cdot 5x^{\frac{5}{2}}}{(5x)^{\frac{3}{2}}}$