

Exercise 19**Radicals and Exponents** Evaluate each expression.

(a) $\left(\frac{5}{3}\right)^0 \cdot 2^{-1}$

(b) $\frac{2^{-3}}{3^0}$

(c) $\left(\frac{2}{3}\right)^{-2}$

Solution

Evaluate these expressions, noting that any number raised to the power of 0 is 1.

$$\left(\frac{5}{3}\right)^0 \cdot 2^{-1} = (1) \cdot \frac{1}{2^1} = \frac{1}{2}$$

$$\frac{2^{-3}}{3^0} = \frac{2^{-3}}{1} = 2^{-3} = \frac{1}{2^3} = \frac{1}{8}$$

$$\left(\frac{2}{3}\right)^{-2} = \left(\frac{3}{2}\right)^2 = \frac{3^2}{2^2} = \frac{9}{4}$$