

1.

(1)

$$7^0 = 1$$

(2)

$$8^{2/3} = (\sqrt[3]{8})^2 = 2^2 = 4$$

(3)

$$\log_2 8^{1/4} = \frac{1}{4} \log_2 8 = \frac{1}{4} \log_2 2^3 = \frac{3}{4} \log_2 2 = \frac{3}{4}$$

(4)

$$\log_2 (\sqrt{2})^3 = 3 \log_2 \sqrt{2} = 3 \log_2 2^{1/2} = \frac{3}{2} \log_2 2 = \frac{3}{2}$$