a) $(5^2)^{\frac{1}{3}} = 5^{2 \cdot \frac{1}{3}} = 5^{\frac{2}{3}}$

b) $\sqrt[10]{7^1} = 7^{\frac{1}{10}}$

c) $-(7^2)^{\frac{1}{8}} = -7^{\frac{2}{8}} = -7^{\frac{1}{4}}$

d) $\sqrt{2} = 2^{\frac{1}{2}}$

e) $\frac{1}{\sqrt{3}} = \frac{1}{3^{\frac{1}{2}}} = 3^{-\frac{1}{2}}$

f) $\frac{2^3}{\sqrt[7]{(2^2)^3}} = \frac{2^3}{\sqrt[7]{2^6}} = \frac{2^3}{2^{\frac{6}{7}}} = 2^{3-\frac{6}{7}} = 2^{\frac{15}{7}}$