(1) $9^{-2} = \frac{1}{9^2} = \frac{1}{81}$ (2) $8^{2/3} = (2^3)^{2/3} = 2^{3 \cdot \frac{2}{3}} = 2^2 = 4$

(3) $32^{4/5} = (2^5)^{\frac{4}{5}} = 2^{5 \cdot \frac{4}{5}} = 2^{4} = 16$

(4) $27^{-1/3} = \frac{1}{27^{1/3}} = \frac{1}{(3^3)^{1/3}} = \frac{1}{3^{3/3}} = \frac{1}{3^1} = \frac{1}{3}$

(5) $\left(\frac{1}{2}\right)^{-4} = \frac{1}{\left(\frac{1}{2}\right)^4} = \frac{1}{\frac{1}{2^4}} = \frac{1}{\frac{1}{16}} = 16$

(6) $(-32)^{-3/5} = \frac{1}{(-32)^{3/5}} = \frac{1}{}$