

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

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

$$(4) 27^{-7/3} = \frac{1}{27^{7/3}} = \frac{1}{(3^3)^{7/3}} = \frac{1}{3^7} = \frac{1}{3^1} = \frac{1}{3}$$

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

$$(6) (-32)^{-3/5} = \frac{1}{(-32)^{3/5}} = \frac{1}{-2} = -\frac{1}{2}$$