Write the equation of the exponential model.

① $\left(-2, \frac{1}{8}\right)$ $(1, 8)$

$$y = a \cdot b^x$$

$8 = a \cdot b^1$

$8 = a \cdot b$

$\boxed{\frac{8}{b} = a}$

$y = \frac{8}{b} \cdot b^x$

$\frac{1}{8} = \frac{8}{b} \cdot b^{-2}$

$\frac{1}{8} = \frac{8}{b^1} \cdot \frac{1}{b^2}$

$\frac{1}{8} = \frac{8}{b^3}$

$\frac{8}{4} = a$

$2 = a$

$b^3 = 64$

$b = 4$

$y = 2(4)^x$

② $(-2, \frac{4}{9})$ $(1, 12)$

$y = a \cdot b^x$

$12 = a \cdot b^1$

$\frac{12}{b} = \frac{a \cdot b}{b}$

$\frac{12}{b} = a$

$y = \frac{12}{b} \cdot b^x$

$\frac{4}{9} = \frac{12}{b} \cdot b^{-2}$

$\frac{4}{9} = \frac{12}{b} \cdot \frac{1}{b^2}$

$\frac{4}{9} = \frac{12}{b^3}$

$\frac{4b^3}{4} = \frac{108}{4}$

$\frac{12}{3} = a$

$b^3 = 27$

$b = 3$

$4 = a$

$$y = 4(3)^x$$

3 $\left(-1, \frac{1}{2}\right)\left(2, 32\right)$

$$y = 2(4)^x$$