

$$1) f(x) = c \cdot a^x$$

$$\begin{array}{|l} (c > 0, a > 0) \\ (x, y) \\ y = \log(y) \end{array} \rightarrow \log(y) = \log(c \cdot a^x) = \log(c) + x \log(a) = Y$$

$$\downarrow \quad \downarrow \quad \downarrow$$

$$q + x \cdot m = Y$$

$$m = \log(a) \rightarrow \text{slope}$$

$$q = \log(c) \rightarrow Y\text{-intercept } (x=0)$$

$$11) f(x) = c \cdot x^a$$

$$\begin{array}{|l} (c > 0, x > 0) \\ (X, Y) \\ X = \log(x) \\ Y = \log(y) \end{array} \rightarrow \log(y) = \log(c \cdot x^a) = \log(c) + a \cdot \log(x)$$

$$\downarrow \quad \downarrow \quad \downarrow$$

$$Y = \log(c) + a \cdot X$$

$$\downarrow$$

$$m = a$$

$$q = \log(c) \rightarrow (X=0 \Leftrightarrow x=1)$$

$$i) f(x) = \frac{5}{\sqrt{2x^2}} = 5 \cdot 2^{-\frac{1}{2}} \cdot x^{-\frac{1}{2}} \rightarrow \textcircled{11} \rightarrow a = -\frac{1}{2} \rightarrow m = -\frac{1}{2}$$

$$c = 5 \cdot 2^{-\frac{1}{2}} \rightarrow q = \log(5 \cdot 2^{-\frac{1}{2}})$$

$$ii) f(x) = 10^5 \cdot (2e)^{-\frac{x}{100}} = 10^5 \cdot (2e)^{-\frac{1}{100}x} \rightarrow \textcircled{1} \rightarrow a = 10^5 \rightarrow m = \log(10^5) = 5 \log(10)$$

$$c = 2e^{-\frac{1}{100}} \rightarrow q = \log(2e^{-\frac{1}{100}}) = -\frac{\log(2e)}{100}$$

$$iii) f(x) = \left(\frac{10^{2x}}{2^{5x}}\right)^2 = \left(\left(\frac{100}{25}\right)^x\right)^2 = 16^x \rightarrow \textcircled{1} \rightarrow a = 16 \rightarrow m = \log(16)$$

$$c = 1 \rightarrow q = \log(1) = 0$$