

نام و نام خانوادگی پاسبانمه تشریحی تکلیف شماره کلاس *ب. نینیم*

شماره $f(x) = 3^{Ax+B}$ ، نمودار $y = x^2$ را در نقطه $(1, 3)$ مماس است. معادله تانژانت f را بیابید؟

$$1 = 3^{A+B} \rightarrow A+B=0 \rightarrow A=-B$$

$$9 = 3^{2A+B} \rightarrow 2 = 3A-A \rightarrow A=1 \rightarrow B=-1$$

$$x=0 \rightarrow 3^B = \frac{1}{3}$$

۲

۱

معادله $\log_2(x^2+1) = x+2$ را در $x^2 = t$ تبدیل کنید.

$$2^x \times 1 = 2^{x+2}$$

$$0 = t^2 - 1t + 1 \quad (t-3)(t-2) = 0$$

$$\log_2 4 + \log_2 a = \log_2 a \quad \begin{matrix} 2^x = 4 \\ 2^x = a \end{matrix}$$

۲

۲

$$\frac{(\log_2^2 x) + \log_2(x^2)}{\log_2(x^2)} = \frac{(\log_2^2 x) + (2 \log_2 x)}{\log_2(x^2)}$$

$$\frac{(\log_2^2 x) + (2 \log_2 x)}{2 - (\log_2^2 x)} = 2$$

$$1 \times 2 = 2 \times 2$$

$$1 \times 2 \times 2 = 2 \times 2 \times 2$$

۲

۳

$$\log_2(n^2 - 2n + 1) + 2 \log_2(1-n) = a \quad \log_2^{(-n)}$$

$$\log_2(n-1)^2 + \log_2(1-n)^2 = a$$

$$\log_2(1-n)^a = a \quad 10^a = (1-n)^a$$

$$n = -9$$

$$\log_2 9 = 2$$

۲

۴

$$\log_2(n^2 + 2n + 1) + \log_2(n-1) = 2 \quad \log_2 \frac{14}{\sqrt{2}}$$

$$\log_2(n-1)(n^2 + 2n + 1) = 2$$

$$\log_2(n^3 - 1) = 2 \quad 11 = n^3 - 1$$

$$n = \sqrt[3]{14} \quad 14 = n^3$$

$$\log_2 14^{\frac{1}{3}} = 2$$

۲

۵

$$\log(x-m) - \log \frac{1}{(x-r)^2} = k \quad \log \frac{(x-m)}{\sqrt{r}}$$

$$\log(x-m)(x-r)^2 = \log(x-m)^k = k$$

$$(x-m)^k = 10^k$$

$$x = -1$$

$$\log \frac{1}{\sqrt{r}} = \log r^{\frac{1}{2}} = \textcircled{4}$$

9

6

$$\mu^{2r-r} = 11^2 \quad \log_4(x-r)$$

$$\mu^{2r-r} = \mu^{2r} \quad x^2 - 4x - r = 0$$

$$\Delta = 14 - 4 \times 1 \times -r = 14 + 4 = 18$$

$$\frac{r \pm \sqrt{18}}{2} \quad x = r \pm \sqrt{4} \rightarrow r - \sqrt{4} \quad x$$

$$\hookrightarrow r + \sqrt{4} \quad \checkmark$$

$$\log_4^{2-r} = \log_4^{(r+\sqrt{4}-r)}$$

$$= \log_4 \sqrt{4} = \textcircled{\frac{1}{2}}$$

7

$$\log r = \frac{2}{k} \quad \log \frac{1}{11}$$

$$(r)^{\frac{2}{k}} = r \quad r^{\frac{1}{k}} = k$$

$$k \cdot \log \frac{1}{11} = \frac{k}{\log 11} = \frac{k}{\log 9 + \log r}$$

$$\frac{k}{1 + k \cdot \log \frac{r}{11}} = \frac{k}{\frac{1}{11}} = \frac{10}{11} = \frac{2}{k}$$

5

8

$$\log r = 0.1 \quad \log \frac{9}{11}$$

$$r^{\frac{1}{10}} = r \rightarrow r^{1.4} = r \quad r = r^{\frac{10}{14}} = r^{\frac{5}{7}}$$

$$\log \frac{14}{11} = \log \frac{11}{11} - \log \frac{1}{11} = 1 - \frac{2}{k} \log \frac{11}{11}$$

$$1 - \frac{2}{k} \left(\frac{1}{\log r + \log \frac{1}{11}} \right)$$

9

$$= 1 - \frac{2}{k} \times \frac{k}{9} \quad 1 - \frac{2}{11} = \textcircled{\frac{9}{11}}$$

$(\sqrt{r})^{\frac{2}{a}} = k \cdot 10^{-1}$... $(a \log r)x^2 + ax + b \log r = 0$...

$$-13 = \frac{b \log r}{a \log r} = \frac{-b}{a} = \beta$$

5

$$\beta - 1 = \frac{-a}{a \log r} = \frac{-1}{\log r} = -\log_2 10 + \log_2 r \quad \log \frac{1}{2} = -\log_2 2 = \beta$$

10

$$\frac{+b}{a} = + \log \frac{10}{r} \quad \sqrt{r} \log \frac{10}{r} = \textcircled{\sqrt{10}}$$