（まだ全然鬼じゃないけど）

鬼！計算演習プリント

解答編♪

vol.10

〈解答〉

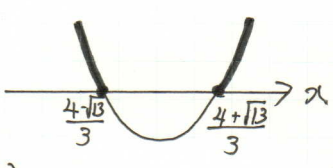
(1) $3x^2-8x+1 \geqq 0$

$3x^2-8x+1=0$ の解は、

$x=\dfrac{4\pm\sqrt{13}}{3}$

$\therefore\ x \leqq \dfrac{4-\sqrt{13}}{3},\ \dfrac{4+\sqrt{13}}{3} \leqq x$ ……(答)

(下に凸)



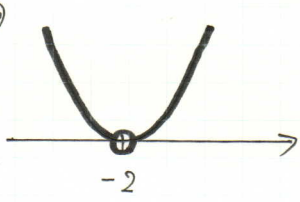
(2) $x^2+4x+4>0$

$\rightleftarrows (x+2)^2>0$

$\therefore\ x \neq -2$ …… (答)

(x は -2 を除く全ての実数)

(下に凸)



(3) $\sqrt[3]{6}\times\sqrt[3]{7}=\sqrt[3]{42}$ …… (答)

(①⑨ $6^{\frac{1}{3}}\cdot 7^{\frac{1}{3}}=(6\cdot 7)^{\frac{1}{3}}=42^{\frac{1}{3}}$)

(4) $\log_5 5^{\log_5 3}=\log_5 3\cdot\underbrace{\log_5 5}_{(=1)}$

$=\log_5 3$ …… (答)

(5) $S_{10} = \dfrac{10(0+100)}{2}$

$= 500$ ..... (答)

(6) $\displaystyle\sum_{k=1}^{n} 2k = 2\sum_{k=1}^{n} k$

$= 2\,\dfrac{1}{2}\,n(n+1)$

$= n(n+1)$ ..... (答)

(7) $\cos\theta = \dfrac{12}{13}$ より

$\sin^2\theta + \cos^2\theta = 1$ から

$\sin^2\theta + \left(\dfrac{12}{13}\right)^2 = 1$

$\therefore \sin^2\theta = \dfrac{25}{169}$

$\therefore \sin\theta = \dfrac{5}{13}$ $\left(\because 0 \leqq \theta \leqq \dfrac{\pi}{2}\right)$

$\tan\theta = \dfrac{\sin\theta}{\cos\theta} = \dfrac{\left(\frac{5}{13}\right)}{\left(\frac{12}{13}\right)} = \dfrac{5}{12}$ ..... (答)

(8). $\sin 60° = \dfrac{\sqrt{3}}{2}$

$\cos 60° = \dfrac{1}{2}$ ..... (答)

$\tan 60° = \sqrt{3}$