

广州一模数学答案

1-4: CBCA 5-8: BDCD 9-12: BD ABC ACD BC

13、 $-\frac{3}{4}$

14、 $[-2, 2]$

15、 $\frac{4}{3}\pi$

16、 $\frac{15}{64}$

17、(1) $a_1=2$ $a_2=4$ $a_3=8$ $a_n=2^n$

(2) $b_n=2^n - (-1)^n n$

18、(1) 略 (2) 负四分之根号二

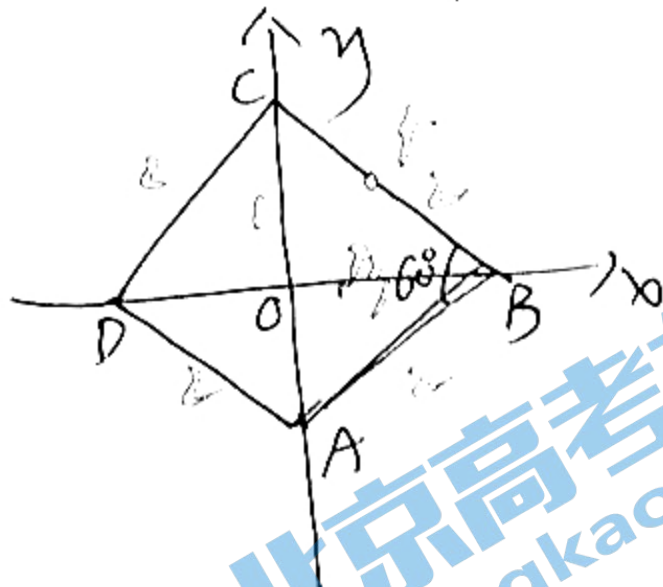
16. $\sin \alpha = \frac{3}{5}$; $\cos \alpha = \pm \frac{4}{5}$

$$\therefore \frac{\lambda_1}{2} < \alpha < \lambda_1$$

$$\therefore \cos \alpha = -\frac{4}{5}$$

$$\tan \alpha = -\frac{3}{4}$$

17.



3. $A(0, -1) D(-3, 0)$

$$B(\sqrt{3}, 0) \quad C(0, 1)$$

$$C_{BC} = \frac{x}{\sqrt{3}} + \frac{y}{1} = 1$$

\therefore 设 $P(\sqrt{3}a, 0, 1-a)$,

$$0 \leq \sqrt{3}a \leq \sqrt{3}, \underline{0 \leq a \leq 1}$$

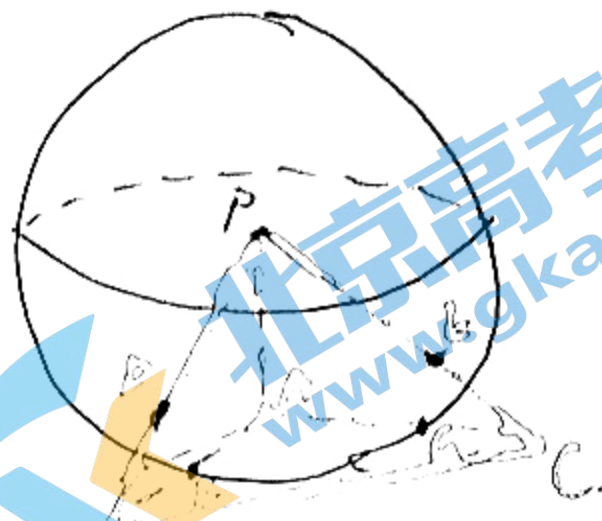
$$\therefore \vec{AD} = (-\sqrt{3}, 1)$$

$$\overline{AP'} = (\sqrt{3}a, 2-a)$$

$$\begin{aligned}\overrightarrow{AD} \cdot \overrightarrow{AP} &= -3a + 2 - a \\ &= 2 - 4a \quad (0 \leq a \leq 1)\end{aligned}$$

$$\therefore \overrightarrow{AB} \cdot \overrightarrow{AP} \in [-2, 2]$$

18.



$$\therefore pB = 2\sqrt{6} > 4$$

∴ B, C 在圆球外

设三棱锥与球4个交点为D, E, F, G.

∴ 有 4 段弧 \widehat{DE} \widehat{FG} \widehat{DF} \widehat{EG}

$\therefore \widehat{DF} = \widehat{EG}$ 因为对称.

∴ 最长弧不能是 DE 或 FG

$$\therefore l = ar$$

\widehat{DE} 与 \widehat{FG} 相同.

∴ 比较 2. 可知 $\angle DPE > \angle FPG$

$$\therefore \text{DE 弦长 } l = \alpha r = \frac{\pi}{3} \cdot 4 = \frac{4}{3}\pi.$$

19. 可看作独立重复试验.

为 $X \sim B(b, \frac{1}{2})$, 故 X 服从二项分布.

设左移 x 次, 右移 y 次, 要 6 次到

5) $\begin{cases} x+y=6 \\ x-y=2 \end{cases} \Rightarrow \begin{cases} x=4 \\ y=2 \end{cases}$

$$\therefore P = {}^6C_4 \left(\frac{1}{2}\right)^4 \left(\frac{1}{2}\right)^2$$

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