

1 $O A B C \quad \{OA \quad OB \quad OC\}$
 A $O A B C \quad B O A B C$
 C $O A B C \quad D O A B C$

2. $l \quad a (2 \ 5 \ 7) \quad u (1 \ 1 \ 1) \quad (\quad)$
 A. $l \subset B.l \quad C.l \subset D.l$

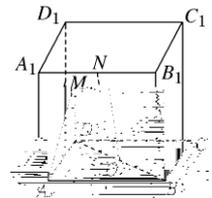
3 $OABC \quad E \quad OA \quad \overline{CF} \quad \frac{1}{3}\overline{CB} \quad \overline{OA} \quad \vec{a} \quad \overline{OB} \quad \vec{b} \quad \overline{OC} \quad \vec{c} \quad \overline{EF}$
 A $\frac{1}{2}\vec{a} \quad \frac{1}{3}\vec{b} \quad \frac{2}{3}\vec{c}$ B $\frac{1}{2}\vec{a} \quad \frac{1}{3}\vec{b} \quad \frac{4}{3}\vec{c}$ C $\frac{1}{2}\vec{a} \quad \frac{2}{3}\vec{b} \quad \frac{1}{3}\vec{c}$ D $\frac{1}{2}\vec{a} \quad \frac{1}{3}\vec{b} \quad \frac{2}{3}\vec{c}$

4. $ABCD \quad A_1B_1C_1D_1 \quad AB \quad BC \quad a \quad AA_1 \quad 2a \quad D_1 \quad AC \quad (\quad)$
 A. $\sqrt{3}a$ B. $\frac{\sqrt{3}a}{2}$ C. $\frac{2\sqrt{2}a}{3}$ D. $\frac{3\sqrt{2}a}{2}$

5 $x, y \in R \quad \vec{a} \quad x, 1, 1, \vec{b} \quad 1, y, 1, \vec{c} \quad 2, 4, 2, \vec{a} \quad \vec{c}, \vec{b} // \vec{c} \quad |\vec{a} \quad \vec{b}|$

A $2\sqrt{2}$ B $\sqrt{10}$ C 3 D 4

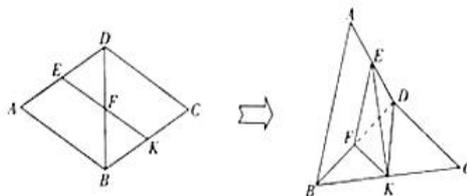
6. $ABCD \quad A_1B_1C_1D_1 \quad O \quad ABCD$
 M $D_1D \quad N \quad A_1B_1 \quad NO \quad AM \quad (\quad)$
 A B
 C D



7. $ABC \quad A_1B_1C_1 \quad AA_1 \quad 2A_1B_1 \quad 2B_1C_1 \quad AB \quad BC \quad M \quad A_1C_1 \quad MB \quad (\quad)$
 A. $\frac{1}{3}$ B. $\frac{2\sqrt{2}}{3}$ C. $\frac{3\sqrt{2}}{4}$ D. $\frac{1}{2}$

8. $(\quad) \quad ABCD \quad \angle BAD = 60^\circ \quad AD \quad BD \quad BC \quad E \quad F \quad K \quad EF \quad FK$
 ABD BD A BD C

A B
 C D



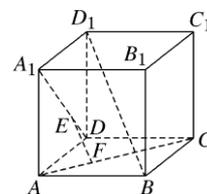
9. A. $p \quad xa \quad yb \quad p \quad a \quad b$ B. $p \quad a \quad b \quad p \quad xa \quad yb$
 C. $MP \quad xMA \quad yMB \quad P \quad M \quad A \quad B$ D. $P \quad M \quad A \quad B \quad MP \quad xMA \quad yMB$

10 $ABCD A_1B_1C_1D_1$ E F $A_1D AC$

$A_1E \frac{2}{3}A_1D AF \frac{1}{3}AC$ ()

A EF $A_1D AC$ B EF $A_1D EF AC$

C EF BD_1 D EF BD_1

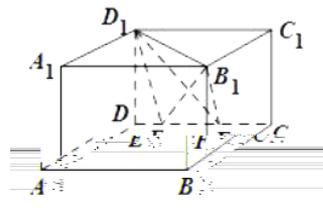


11 E F $ABCD A_1B_1C_1D_1$ DC AB 2 EF 1

A $D_1 B_1EF$

B $D_1B_1 EF$ 45

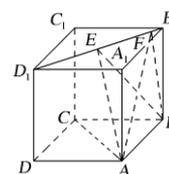
C $D_1B_1 B_1EF$ D $D_1B_1 B_1EF$ 30°



12. $ABCD A_1B_1C_1D_1$ 1 B_1D_1 E F EF $\frac{\sqrt{2}}{2}$ ()

A AC BE B.EF ABCD

C. A BEF D. AE BF



13. PA PB PC 1 2 3 60° G ABC

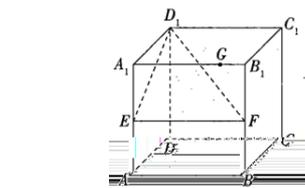
$PG xPA yPB zPC$ $x y z R$ $x y z$ _____ $|PG|$ _____.

14. a (5 3 1) b 2 t $\frac{2}{5}$ a b t _____.

15. l a (1 1 2) m b 2 1 $\frac{1}{2}$ l m
 l a (0 1 1) a n (1 1 1) l a a
 β n_1 (0 1 3) n_2 (1 0 2) a β a A(1 0 1) B(0 1
 0) C(1 2 0) n (1 u t) a u t 1.
 ()

16 2 $ABCD A_1B_1C_1D_1$ E F AA_1, BB_1

G A_1B_1 A_1G (0 2) G D_1EF



17. $ABC - A_1B_1C_1$ 中 D 为 BC 的中点, $AA_1 \perp AB$. 2.

(1) 证明 $A_1C \perp AB_1D$.

(2) 求 C_1 到平面 AB_1D 的距离.

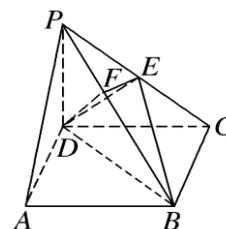
18. 如图, 四棱锥 $P-ABCD$ 中, $ABCD$ 为矩形, $PD \perp$

DC , E 为 PC 的中点, $EF \perp BP$ 于 F .

(1) 证明 $PA \perp EDB$.

(2) 求 PB 与平面 EFD 所成角的余弦值.

$PD \perp$ $ABCD$



19. $ABCD \cong A_1B_1C_1D_1$ \cong $2 \triangle ABC \cong \triangle A_1AC$ 60°