

O $PA = PB = PC$ $\triangle ABC$ $P-ABC$
 PB $\angle CEF = 90^\circ$ O E F PA
 A $8\sqrt{6}\pi$ B $4\sqrt{6}\pi$ C $2\sqrt{6}\pi$ D $\sqrt{6}\pi$
 $PB \perp PAC$ $PA = PB = PC = \sqrt{2}$

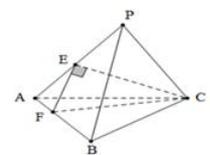


图 1

$P-ABC$

$PA = PB = PC$ $\triangle ABC$ $P-ABC$
 $PB \perp AC$ E F PA PB $EF \parallel PB$ $EF \perp AC$ $EF \perp CE$
 $CE \cap AC = C$ $EF \perp PAC$ $PB \perp PAC$ $\angle APB = 90^\circ$

$$PA = PB = PC = \sqrt{2} \quad P-ABC \quad 2R = \sqrt{2+2+2} = \sqrt{6} \quad R = \frac{\sqrt{6}}{2}$$

$$V = \frac{4}{3}\pi R^3 = \frac{4}{3}\pi \times \frac{6\sqrt{6}}{8} = \sqrt{6}\pi \quad D$$

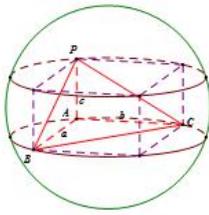


图 2

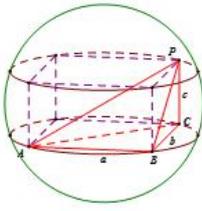


图 3

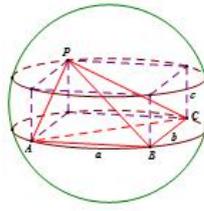


图 4

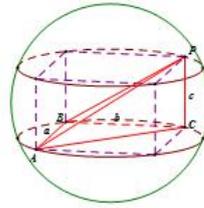


图 5

$$(2R)^2 = a^2 + b^2 + c^2 \quad 2R = \sqrt{a^2 + b^2 + c^2} \quad R$$

$$\sqrt{2}$$

$$2R = \sqrt{3} \quad R = \frac{\sqrt{3}}{2}$$

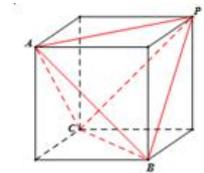


图 6

$$V = \frac{4}{3} \pi \cdot \frac{3\sqrt{3}}{8} = \frac{\sqrt{3}}{2} \pi$$

$$AD = BC = x \quad AB = CD = y \quad AC = BD = z$$

$$c \quad 2R = \sqrt{a^2 + b^2 + c^2} = \sqrt{\frac{x^2 + y^2 + z^2}{2}} \quad R$$

a b

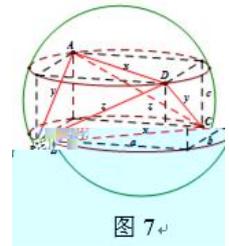


图 7

A B C O

O₁ ABC

O₁ 4π

$$AB = BC = AC = OO_1 \quad O$$

64π

48π

36π

32π

ABC

OO₁

A

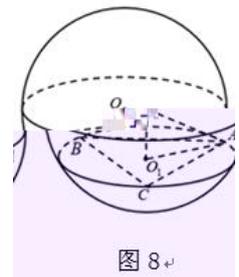


图 8

ABC

$$\frac{9\sqrt{3}}{4}$$

O

O

16π

O

ABC

$\sqrt{3}$

$$\frac{3}{2}$$

$$\frac{\sqrt{3}}{2}$$

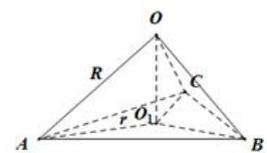


图 9

$$\begin{array}{ccccccc}
 O & & ABC & & O & R & ABC & r \\
 & & & C & & & & \\
 d = \sqrt{R^2 - r^2} & & & & & & & \\
 \Delta ABC & O_1 & O_1 & ABC & & O & OA & OA \\
 R^2 = OA^2 = O_1A^2 + O_1O^2 & & & & & & &
 \end{array}$$

$$A \quad \pi \quad B \quad \frac{3\pi}{4} \quad C \quad \frac{\pi}{2} \quad D \quad \frac{\pi}{4}$$

$$AC = 1 \quad AB = \frac{1}{2} \quad r = BC = \frac{\sqrt{3}}{2}$$

$$V = \pi r^2 h = \pi \times \left(\frac{\sqrt{3}}{2}\right)^2 \times 1 = \frac{3}{4}\pi \quad B$$

