

(1.2 1 2 3 3)

2020 12 2020 11 10 2020 11 10 2019
 8 2015 12 2018 11 9 2015 12 2017 16 2017 5
 10

[1] ?

1
1.1

1.2

(1):
(2):

2
2.1

1. 2019 1. 12 $P-ABC$
 O $PA=PB=PC$ ΔABC 2 E F PA
 PB $\angle CEF=90^\circ$ O
 A $8\sqrt{6}\pi$ B $4\sqrt{6}\pi$ C $2\sqrt{6}\pi$ D $\sqrt{6}\pi$

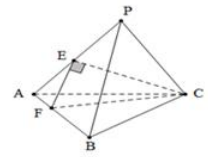


图 1

1 $PB \perp PAC$ $PA=PB=PC=\sqrt{2}$

$P-ABC$

: 1 $PA=PB=PC$ ΔABC 2 $P-ABC$

$PB \perp AC$ E F PA PB $EF \parallel PB$ $EF \perp AC$ $EF \perp CE$

$CE \cap AC = C$ $EF \perp PAC$ $PB \perp PAC$ $\angle APB = 90^\circ$

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

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

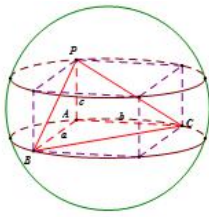


图 2

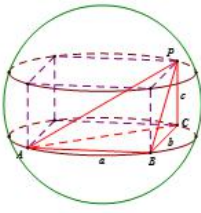


图 3

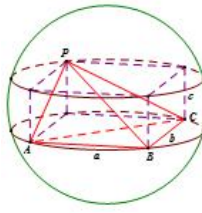


图 4

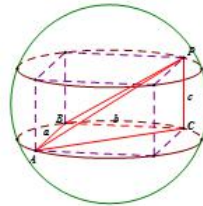


图 5

2 5

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

2.2

$$2 \sqrt{2}$$

: 6

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

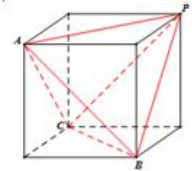


图 6

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

7

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

a b

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

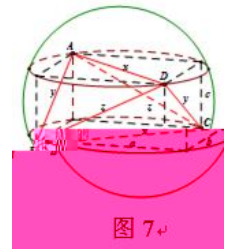


图 7

2.3

3 2020 1. 10 /2020 1. 12

A, B, C O O₁ ABC O₁ 4π

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

A 64π B 48π C 36π D 32π

8, ABC

OO₁ (1) A.

4 2020 11. 10 /2020 11. 11

$$ABC \quad \frac{9\sqrt{3}}{4} \quad O \quad O$$

16π O ABC

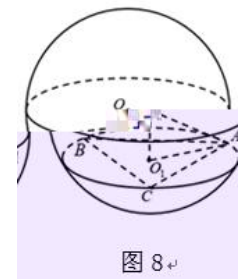


图 8

A $\sqrt{3}$ B $\frac{3}{2}$ C 1 D $\frac{\sqrt{3}}{2}$

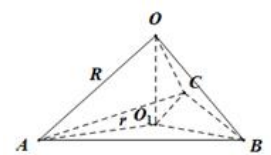
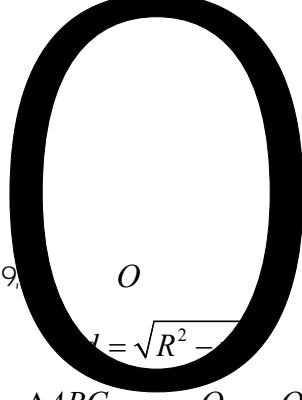


图 9



9) O ABC
 $1 = \sqrt{R^2 - \dots}$ C .

ΔABC O_1 O_1 ABC
 (1) $R^2 = OA^2 = O_1A^2 + O_1O^2$.

5 2017

2

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

: 10

$AC = 1$ $AB = \frac{1}{2}$

$r = BC = \frac{\sqrt{3}}{2}$

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



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