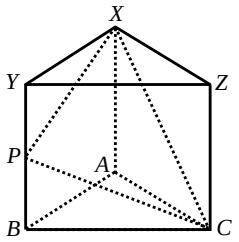
1992 FG6

如圖所示，ΔABC 及ΔXYZ 為等邊三角形，同時亦為一柱體的底和面。P 為 BY 的中點，

且 $BP = 3$ cm，$XY = 4$ cm。

As shown in the figure, ΔABC and ΔXYZ are equilateral triangles and are ends of a right prism.

P is the mid-point of BY and $BP = 3$ cm, $XY = 4$ cm.



G6.1 若 $a = \dfrac{CP}{PX}$，求 a 的值。If $a = \dfrac{CP}{PX}$, find the value of a.

G6.2 若 $CX = \sqrt{b}$ cm，求 b 的值。If $CX = \sqrt{b}$ cm, find the value of b.

G6.3 若 $\cos\angle PCX = \dfrac{\sqrt{c}}{5}$，求 c 的值。If $\cos\angle PCX = \dfrac{\sqrt{c}}{5}$, find the value of c.

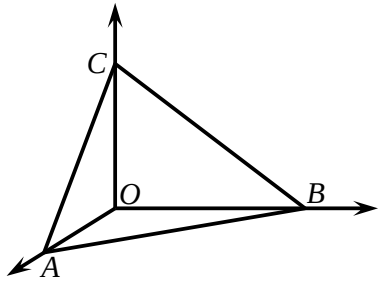
G6.4 若 $\sin\angle PCX = \dfrac{2\sqrt{d}}{5}$，求 d 的值。If $\sin\angle PCX = \dfrac{2\sqrt{d}}{5}$, find the value of d.

1993 FG7

$OABC$ 為一四面體，其中 OA、OB 及 OC 互相垂直。

已知 $OA = OB = OC = 6x$。

$OABC$ is a tetrahedron with OA, OB and OC being mutually perpendicular. Given that $OA = OB = OC = 6x$.



G7.1 若 $OABC$ 的體積為 ax^3，求 a 的值。

If the volume of $OABC$ is ax^3, find the value of a.

G7.2 若ΔABC 的面積為 $b\sqrt{3}x^2$，求 b 的值。

If the area of ΔABC is $b\sqrt{3}x^2$, find the value of b.

G7.3 若由 O 至ΔABC 的距離為 $c\sqrt{3}x$，求 c 的值。

If the distance from O to ΔABC is $c\sqrt{3}x$, find the value of c.

G7.4 若由 C 至 AB 中點的俯角為θ，且 $\sin\theta = \dfrac{\sqrt{d}}{3}$，求 d 的值。

If θ is the angle of depression from C to the midpoint of AB and $\sin\theta = \dfrac{\sqrt{d}}{3}$, find the value of d.

2022 P2Q5

$VABC$ 為一個錐體，其中 $VA = VB = VC$ 及 $AB = BC = CA = a$ m。設它的高為 h m 及它的總表面積及體積相等。

若 a 和 h 均為正整數，求 h 的可能值之和。

$VABC$ is a right pyramid with $VA = VB = VC$ and $AB = BC = CA = a$ m . Let its height be h m and its total surface area and volume are the same.

If a and h are both positive integers, find the sum of all possible values of h .

Answers

1992 FG6.1 1	1992 FG6.2 52	1992 FG6.3 13	1992 FG6.4 3	1993 FG7.1 36
1993 FG7.2 18	1993 FG7.3 2	1993 FG7.4 6	2022 P2Q5 33	