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。

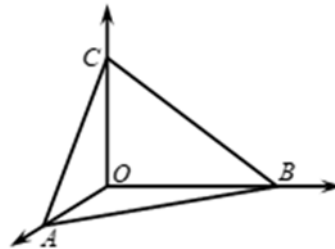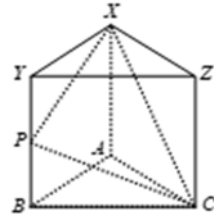If the area of ΔABC is $b\sqrt{3}x^2$, find the value of b .

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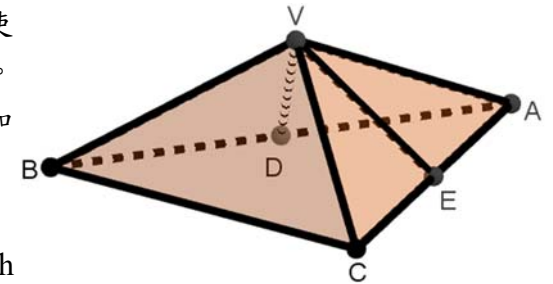
If a and h are both positive integers, find the sum of all possible values of h .

2024 HG1

在圖一中，$VABC$ 是一個四面體，使得 $VA \perp VB$、$VB \perp VC$ 及 $VA \perp VC$。

$VA = 5$，$VB = 4$ 及 $VC = 3$。若 D 和 E 分別為 AB 和 AC 的中點，

求角錐 $VBCED$ 的體積。

In Figure 1, $VABC$ is a tetrahedron such that $VA \perp VB$, $VB \perp VC$ and $VA \perp VC$.

$VA = 5$, $VB = 4$ and $VC = 3$. If D and E are the mid-points of AB and AC respectively, find the volume of pyramid $VBCED$.

圖一 Figure 1

Answers

1992 FG6.1	1992 FG6.2	1992 FG6.3	1992 FG6.4	1993 FG7.1
1	52	13	3	36
1993 FG7.2	1993 FG7.3	1993 FG7.4	2022 P2Q5	2024 HG1
18	2	6	33	7.5