1984 FG7.2

在 ΔABC 中，$\angle B = \angle C = 75°$。若 $q = \sin A$，求 q 的值。

In ΔABC, $\angle B = \angle C = 75°$. If $q = \sin A$, find the value of q .

1984 FG9.4

一面積為 12π 之圓，內接於一周界為 P 之等邊三角形，求 P 的值。

The area of a circle inscribed in an equilateral triangle is 12π.

If P is the perimeter of this triangle, find the value of P .

1988 FG10.3-4
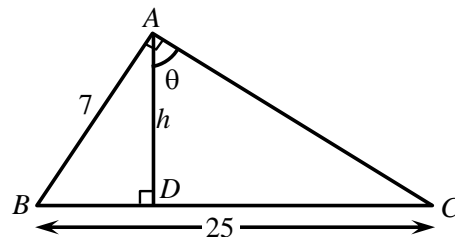
在圖中，$AD \perp BC$，$BA \perp CA$，$AB = 7$，

$BC = 25$，$AD = h$ 及 $\angle CAD = \theta$。

若 $100 \sin \theta = t$，求 t 及 h 的值。

In the figure, $AD \perp BC$, $BA \perp CA$,

$AB = 7$, $BC = 25$, $AD = h$ and $\angle CAD = \theta$.

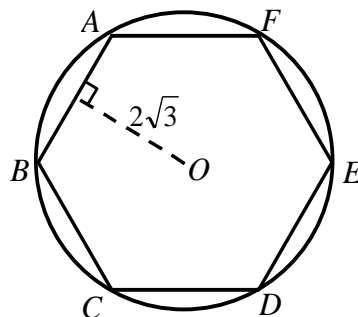If $100 \sin \theta = t$, find the value of t and h .

1989 HI18

如圖二，$ABCDEF$ 為一正六邊形內接於圓形

上，O 為圓心。若 O 至 AB 的距離為 $2\sqrt{3}$，
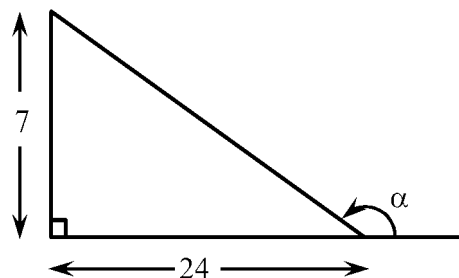
且 p 為該正六邊形的周界，求 p 的值。

In figure 2, a regular hexagon $ABCDEF$ is inscribed in a circle centred at O. If the distance of O from AB is $2\sqrt{3}$ and p is the perimeter of the hexagon, find the value of p .

1989 FG8.2

如圖所示，$100 \cos \alpha = k$。求 k 的值。

In the figure, $100 \cos \alpha = k$.

Find the value of k .

1990 FI2.3

一圓內接於一周界長 36 cm 的正三角形。若圓的面積是 $k\pi$ cm^2，求 k 的值。

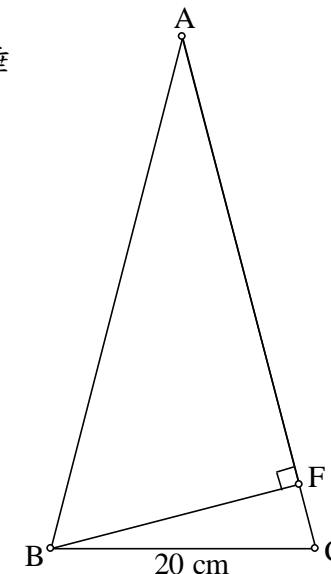A circle is inscribed in an equilateral triangle of perimeter 36 cm.

If the area of the circle is $k\pi$ cm^2, find the value of k .

1992 HI12

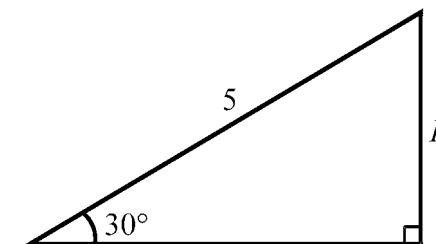在圖中，$AB = AC = 2BC$ 及 $BC = 20$ cm。若 BF 垂直於 AC，且 $AF = x$ cm，求 x 的值。

In the figure, $AB = AC = 2BC$ and $BC = 20$ cm.

If BF is perpendicular to AC and $AF = x$ cm ,

find the value of x .

1992 FSI.4

如圖所示，求 D 的值。

Find the value of D in the figure .

1993 FG10

$ABCD$ 乃一邊長為 $20\sqrt{5}x$ 的正方形。P、Q 分別為 DC 及 BC 的中點。

$ABCD$ is a square of side length $20\sqrt{5}x$.

P, Q are midpoints of DC and BC respectively.

G10.1 若 $AP = ax$，求 a 的值。

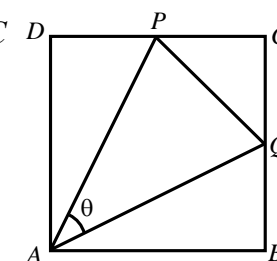If $AP = ax$, find the value of a.

G10.2 若 $PQ = b\sqrt{10}x$，求 b 的值。

If $PQ = b\sqrt{10}x$, find the value of b .

G10.3 若由 A 至 PQ 的距離為 $c\sqrt{10}x$，求 c 的值。

If the distance from A to PQ is $c\sqrt{10}x$, find the value of c .

G10.4 若 $\sin \theta = \dfrac{d}{100}$，求 d 的值。If $\sin \theta = \dfrac{d}{100}$, find the value of d .
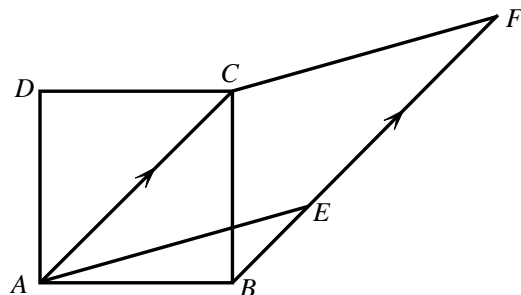
1994 HG4

已知一圓內接等邊三角形的周界為 12，試求此圓的面積（以 π 表示）。

Given that the perimeter of an equilateral triangle inscribed in a circle is 12. Find the area of the circle in terms of π .

1998 FG5.4

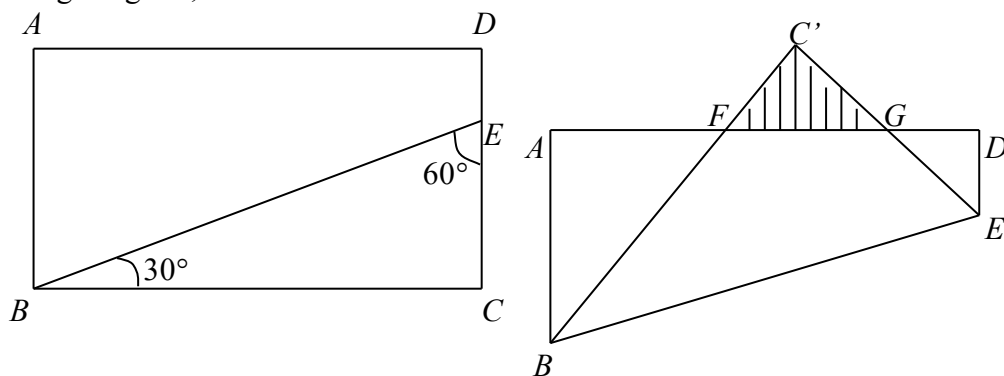在圖中，$ABCD$ 為一正方形，BF // AC，且 $AEFC$ 為一菱形。

若 $\angle EAC = d°$，求 d 的值。

In the figure, $ABCD$ is a square, BF // AC, and $AEFC$ is a rhombus. If $\angle EAC = d°$, find the value of d .

2000 FG2.2

在左圖中，$ABCD$ 是一長方形。$DE : EC = 1 : 5$，且 $DE = 12^{\frac{1}{4}}$ 。

ΔBCE 沿 BE 摺去另一方。設 b 為右圖中陰影部份的面積，求 b 的值。

In the left figure, $ABCD$ is a rectangle. $DE:EC = 1: 5$, and $DE = 12^{\frac{1}{4}}$.

ΔBCE is folded along the side BE. If b is the area of the shaded part as shown in the right figure , find the value of b .
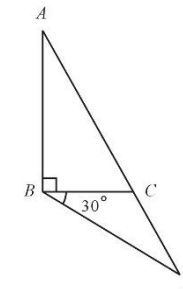
2002 HG10

已知三角形 ABC 中的 $\angle A$ 為一直角，$\sin^2 C - \cos^2 C = \dfrac{1}{4}$ ，$AB = \sqrt{40}$ 及 $BC = x$，求 x 的值。

Given that $\angle A$ is a right angle in triangle ABC, $\sin^2 C - \cos^2 C = \dfrac{1}{4}$, $AB = \sqrt{40}$ and $BC = x$, find the value of x .

2005 FG3.2

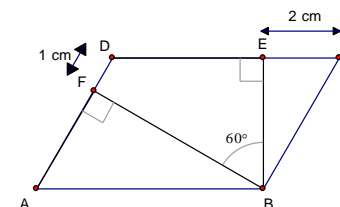如圖，C 在 AD 上且 $AB = BD = 1$ cm，$\angle ABC = 90°$，$\angle CBD = 30°$。若 $CD = b$ cm，求 b 的值。

In the figure, C lies on AD, $AB = BD = 1$ cm, $\angle ABC = 90°$ and $\angle CBD = 30°$. If $CD = b$ cm , find the value of b .

2006 FG4.1

如圖，平行四邊形 $ABCD$，$BE \perp CD$，$BF \perp AD$，$CE = 2$ cm，$DF = 1$ cm 及 $\angle EBF = 60°$。若平行四邊形 $ABCD$ 的面積是 R cm^2，求 R 的值。

In the figure, $ABCD$ is a parallelogram, $BE \perp CD$, $BF \perp AD$, $CE = 2$ cm, $DF = 1$ cm and $\angle EBF = 60°$. If the area of the parallelogram $ABCD$ is R cm^2 , find the value of R .
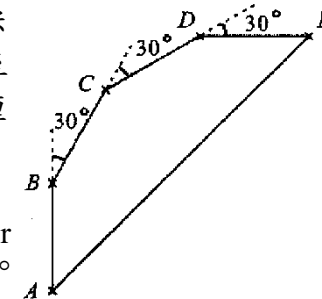
2007 FG3.3

如圖，一螞蟻由 A 點出發，往前直走 5 sec 15°厘米至 B 點；接著右轉 30°，往前直走 5 sec 15°厘米至 C 點。螞蟻再重覆右轉 30°及往前直走 5 sec 15°厘米兩次，分別到達 D 點及 E 點。

若 AE 的距離是 x 厘米，求 x 的值。

In the figure, an ant runs ahead straightly for 5 sec 15° cm from point A to point B. It then turns 30° to the right and run 5 sec 15° cm to point C.

Again it repeatedly turns 30° to the right and run 5 sec 15° cm twice to reach the points D and E respectively. If the distance of AE is x cm, find the value of x .
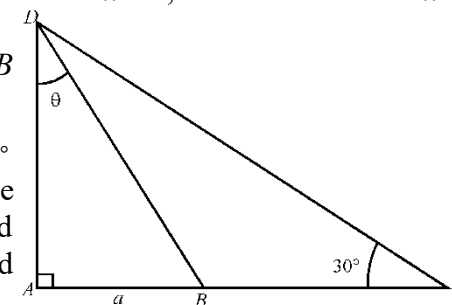
2013 HI3

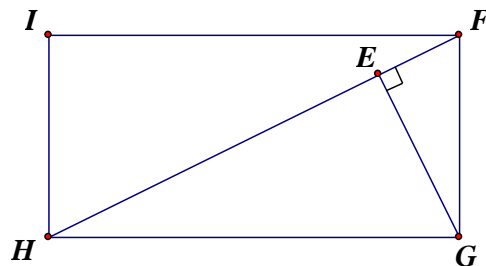如圖所示為一直角三角形 ACD，其中 B 是 AC 上的點且 $BC = 2AB$。

已知 $AB = a$ 及 $\angle ACD = 30°$，求 θ 的值。

The figure shows a right-angled triangle ACD where B is a point on AC and $BC = 2AB$. Given that $AB = a$ and $\angle ACD = 30°$, find the value of θ .

2018 FI3.4

長方形 *FGHI* 被直綫 *FH* 分為兩個
直角三角形。三角形 Δ*FGH* 被直綫
EG 分為另外兩個直角三角形。若
FH：*FG* = 2：1 及三角形 Δ*EGH* 與
三角形 Δ*FEG* 的面積比為 *D*：1，
求 *D* 的值。

Suppose that a rectangle *FGHI* is divided into two right-angled triangles by line *FH*. The triangle Δ*FGH* is then divided into two right-angled triangles by line *EG*. If the ratio of lengths *FH* : *FG* is 2 : 1 and the ratio of the areas of Δ*EGH* to Δ*FEG* is *D* : 1 , determine the value of *D* .

Answers

1984 FG7.2 $\dfrac{1}{2}$	1984 FG9.4 36	1988 FG10.3-4 $t = 96, h = \dfrac{168}{25}$	1989 HI18 24	1989 FG8.2 −96
1990 FI2.3 12	1992 HI12 35	1992 FSI.4 $\dfrac{5}{2}$	1993 FG10.1 50	1993 FG10.2 10
1993 FG10.3 15	1993 FG10.4 60	1994 HG4 $\dfrac{16\pi}{3}$	1998 FG5.4 30	2000 FG2.2 9
2002 HG10 8	2005 FG3.2 $\dfrac{1}{\sqrt{3}}$	2006 FG4.1 $12\sqrt{3}$	2007 FG3.3 $10\sqrt{3}$	2013 HI3 30°
2018 FI3.4 3				