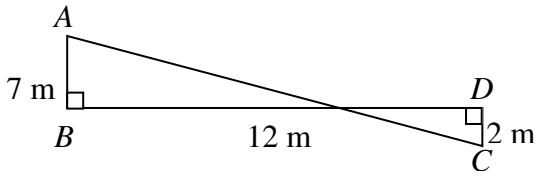
1983 FG8.1

如圖，彼得站 A 點而約翰站在 C 點，BD 的距離 12 m。問彼得和約翰之間的最短距離為何？

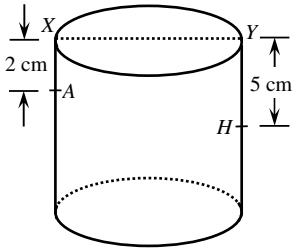
Peter is standing at A and John is at C. The distance between B and D is 12 m. What is the shortest distance between John and Peter?



1991 HG9

在圖中，XY 是圓柱形玻璃杯的直徑，杯底的圓周是 48 cm。杯外 A 點處 (在 X 之下 2 cm) 有一蟻，杯內 H 點處 (在 Y 之下 5 cm) 有一小滴蜜糖。若蟻行至蜜糖的最短路綫長 x cm，求 x 的值。(杯的厚度可略去不計。)

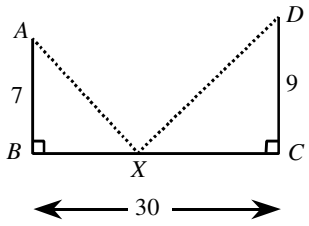
In figure 1, XY is a diameter of a cylindrical glass, 48 cm in base circumference. On the outside is an ant at A, 2 cm below X and on the inside is a small drop of honey at H, 5 cm below Y. If the length of the shortest path for the ant to reach the drop of honey is x cm, find the value of x . (Neglect the thickness of the glass.)



1993 HI1

在圖一中，X 為 BC 上一點。已知 $AB = 7$，$CD = 9$ 及 $BC = 30$，求 $AX + XD$ 的最小值。

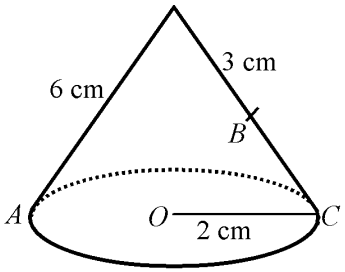
X is a point on the line segment BC as shown in Figure 1. If $AB = 7$, $CD = 9$ and $BC = 30$, find the minimum value of $AX + XD$.



1996 HG2

在圖中 O 是圓錐體底部的圓心；A、B、C 及 O 躺於同一平面上。若螞蟻在圓錐曲面上由 A 走到 B，找出由 A 到 B 的最短路綫的長度。

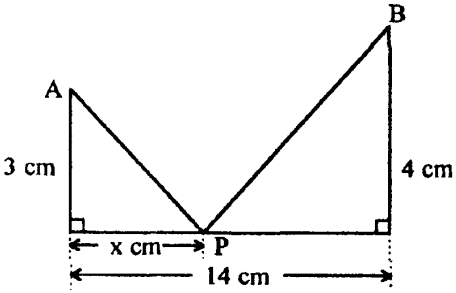
In the figure, O is the centre of the base circle of a cone and the points A, B, C and O lie in the same plane. An ant walks from A to B on the surface of the cone.
Find the length of the shortest path from A to B .



1996 HG9

求 x 的值使得圖中路綫 APB 的長度最小。

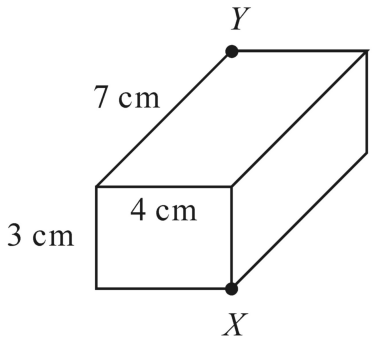
Find the value of x such that the length of the path APB in the figure is the smallest.



2006 HG9

如圖二，一長方體盒的邊長分別是 3 cm，4 cm 及 7 cm。若在盒面上從點 X 到點 Y 的最短路徑的長度是 K cm，求 K 的值。

In Figure 2, given a rectangular box with dimensions 3 cm, 4 cm, and 7 cm respectively. If the length of the shortest path on the surface of the box from point X to point Y is K cm, find the value of K .



2010 FG4.2

已知 x 為一實數及 $y = \sqrt{x^2 - 2x + 2} + \sqrt{x^2 - 10x + 34}$ 。求 y 的最小值。

Given that x is a real number and $y = \sqrt{x^2 - 2x + 2} + \sqrt{x^2 - 10x + 34}$.
Find the minimum value of y .

2015 HI9

設 x 實數。求 $\sqrt{x^2 - 4x + 13} + \sqrt{x^2 - 14x + 130}$ 的最小值。

Let x be a real number.

Find the minimum value of $\sqrt{x^2 - 4x + 13} + \sqrt{x^2 - 14x + 130}$.

2021 P1Q12

設 $f(x) = \sqrt{(x-3)^2 + x^2} + \sqrt{(x-6)^2 + (x+5)^2}$，其中 x 為一實數。求 $f(x)$ 的最小值。Let $f(x) = \sqrt{(x-3)^2 + x^2} + \sqrt{(x-6)^2 + (x+5)^2}$, where x is a real number. Find the minimum value of $f(x)$.

Answers

1983 FG8.1 15 m	1991 HG9 25	1993 HI1 34	1996 HG2 $3\sqrt{3}$ cm	1996 HG9 6
2006 HG9 $7\sqrt{2}$	2010 FG4.2 $4\sqrt{2}$	2015 HI9 13	2021 P1Q12 10	