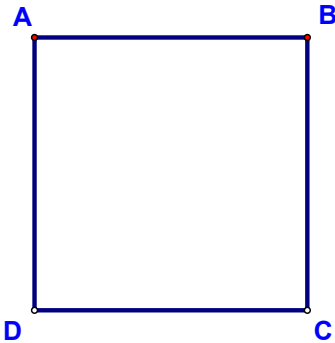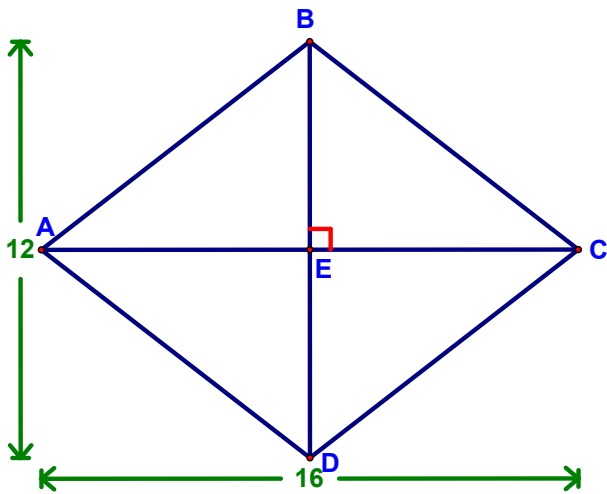2.

Find the length of the diagonal of a square with perimeter 12 cm.

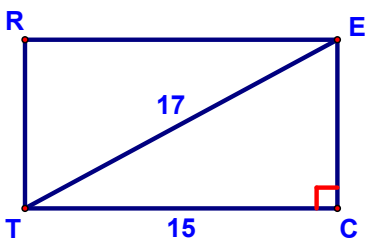A   B

D   C

3.

Find the perimeter of a rhombus with diagonals 12 km and 16 km.
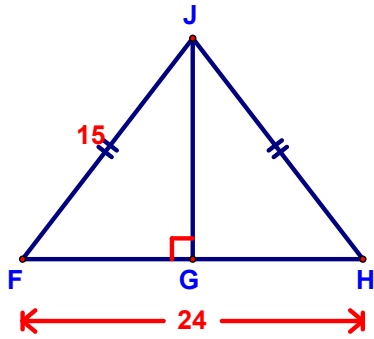
B

12 A   E   C

16 D

4.

Find the perimeter of a rectangle whose diagonal is 17 mm long and whose base is 15 mm long.

R   E
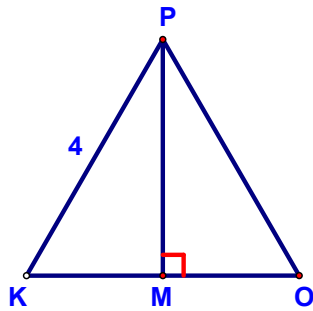
17

T   15   C

5.

Given: $\overline{JG}$ is the altitude to base $\overline{FH}$ of isosceles $\triangle JFH$
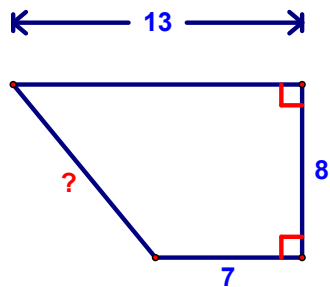
Find: JG

6.

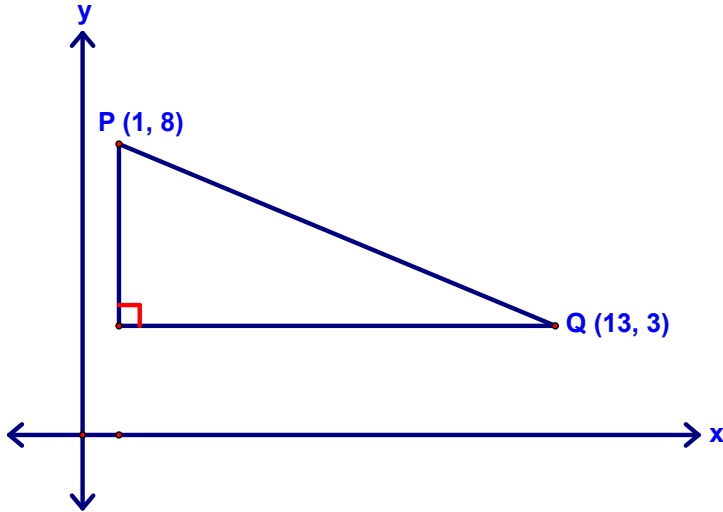$\overline{PM}$ is an altitude of equilateral $\triangle PKO$. If PK = 4, find PM.

7.

Find the missing length in the trapezoid

10.

Use the formula below to find PQ

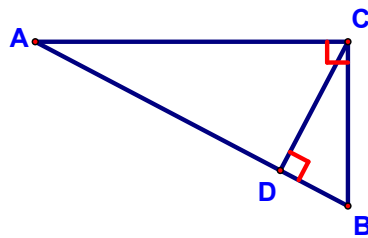$$\left(\text{hint: } d = \sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2}\right)$$

12.

a. If AD = 7 & BD = 4, find CD

b. If CD = 8 & DB = 6, find CB

c. If BC = 8 & BD = 2, find AB

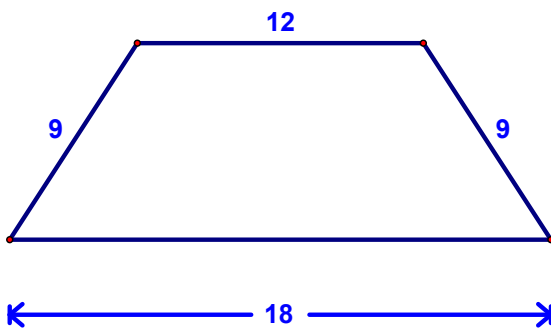**d. If AC = 21 & AB = 29, find CB**

13.

Al Capone walked 2 km north, 6 km west, 4 km north, and 2 km west. If Big Al decides to "go straight," how far must he walk across the fields to his starting point?
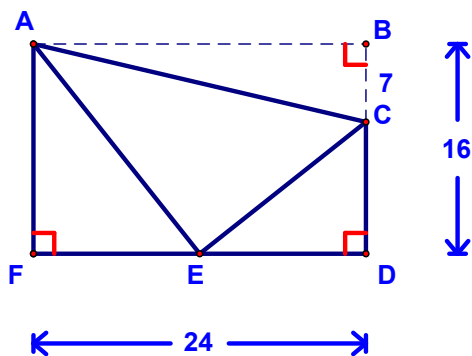
•
Start

14.

Find the altitude (length of a segment ⊥ to both bases) of the isosceles trapezoid shown.
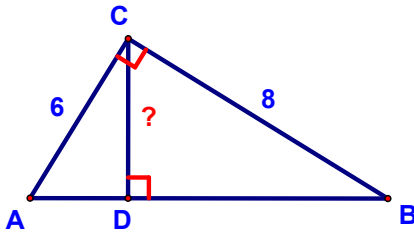

15.

A piece broke off rectangle ABDF, leaving trapezoid ACDF. If BD = 16, BC = 7, FD = 24, and E is the midpoint of $\overline{FD}$, what is the perimeter of △ACE?
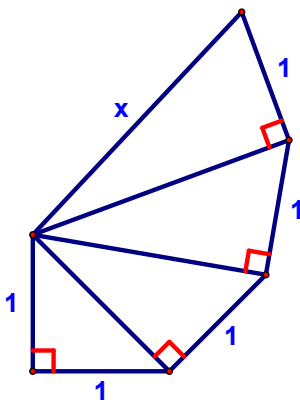
16.

Find CD

17.

Find x.

BTW, this is known as the Spiral of Theodorus. It was first constructed by Theodorus of Cyrene (sometime between 465 BC and 398 BC) and is also known as the Einstein Spiral or the Pythagorean Spiral.
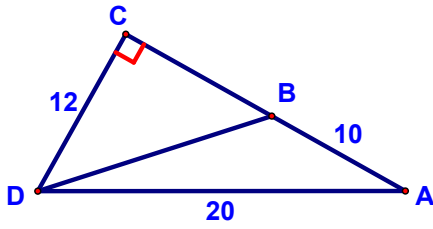

21.

The lengths of the diagonals of a rhombus are in the ratio 2:1. If the perimeter of the rhombus is 20, find the sum of the lengths of the diagonals.
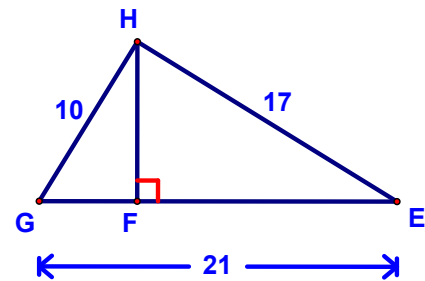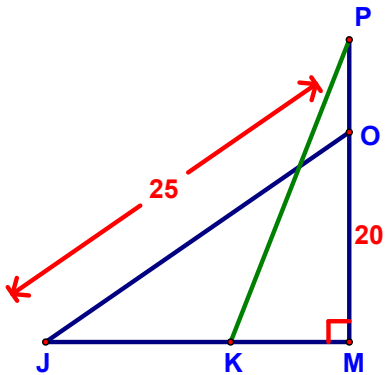
24.

Find the perimeter of △DBC

25.

a. Find HF

b. Is △EHF ~ △HGF?

27.

A 25 ft. long ladder $\left(\overline{JO}\right)$ is leaning against a wall $\left(\overline{PM}\right)$, reaching a point 20 ft. above the ground $\left(\overline{MO}\right)$. The ladder (now $\overline{PK}$) is then moved so that JK = 2(PO). Find KM.

28.

The medians of a right triangle that are drawn from the vertices of the acute angles have lengths of $2\sqrt{13}$ and $\sqrt{73}$. Find the length of the hypotenuse.
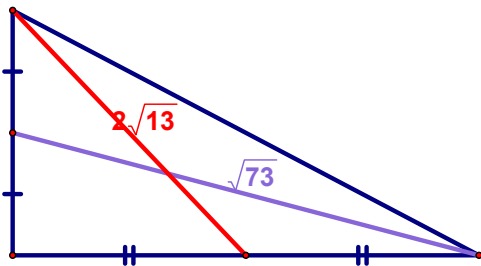
29.

The diagonals of an isosceles trapezoid are each 17, the altitude is 8, and the upper base is 9. Find the perimeter of the trapezoid.