

Find the sum of the numbers
1 to 100.

Is this easy to do? Not for me! I had to
use my calculator.



Name: jo
Who is asking: Student
Level of the question: Secondary

Question: what is the sum of the first 100 whole numbers?? how am i supposed to work this out efficiently? thanks

Hi Jo,

The question you asked relates back to a famous mathematician, Gauss. In elementary school in the late 1700's, Gauss was asked to find the sum of the numbers from 1 to 100. The question was assigned as "busy work" by the teacher, but Gauss found the answer rather quickly by discovering a pattern. His observation was as follows:

$$1 + 2 + 3 + 4 + \dots + 98 + 99 + 100$$

Gauss noticed that if he was to split the numbers into two groups (1 to 50 and 51 to 100), he could add them together vertically to get a sum of 101.

$$1 + 2 + 3 + 4 + 5 + \dots + 48 + 49 + 50$$

$$100 + 99 + 98 + 97 + 96 + \dots + 53 + 52 + 51$$

$$1 + 100 = 101$$

$$2 + 99 = 101$$

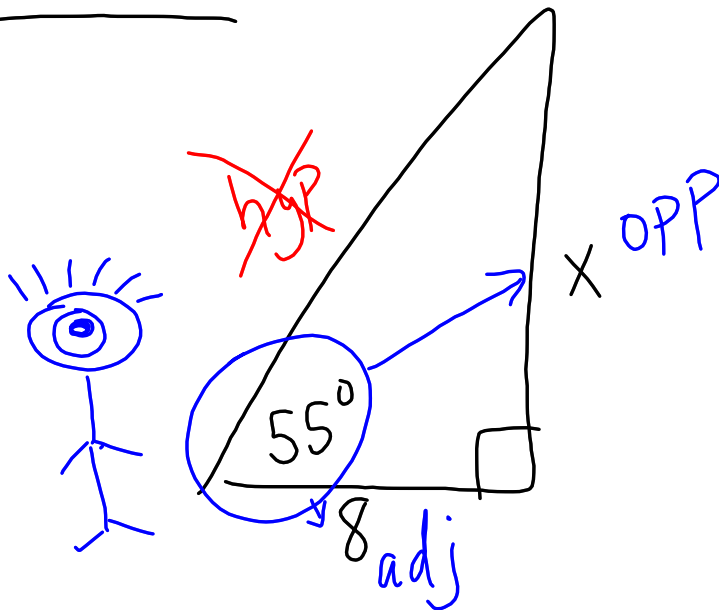
$$3 + 98 = 101$$

<http://mathcentral.uregina.ca/qq/database/qq.02.06/jo1.html>

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- ① Work check - booklets
- Ratios + Prop p 1-3
 - Sum of Angles p 5
 - Pyth Theorem p 13-17
 - Tangent p 25-29

p 25 Q1

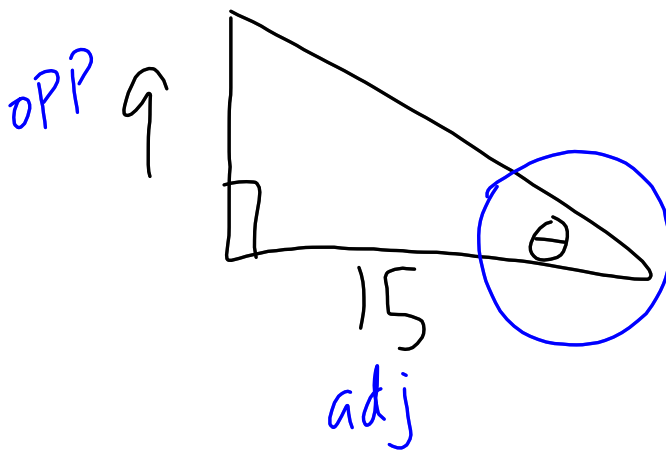


$$\frac{\tan(55)}{1} = \frac{x}{8}$$

$$x = \underline{\underline{11.4}}$$

- look from angle
 - use opp, adj, hyp as necessary
- step 1 - Label
step 2 - Set up
step 3 - solve

p 29 4a



$$\begin{aligned}\theta &= \tan^{-1}\left(\frac{9}{15}\right) \\ &= 30.96 \\ &\underline{\underline{31^\circ}}\end{aligned}$$