

Learning outcomes

After completing this section, you will inshaAllah be able to

1. know what are related rates problems
2. solve related rates problems

What are related rates problems?

- Given a situation where

one quantity 'A' is related to other quantity or quantities
& a change is occurring

- And the question is

To find the rate of change of quantity 'A', using known
rates of change of other quantities on which it is
depending.

- For example:
 - Volume 'V' of a cube depends on the length of the side 'h'.
 - If 'h' is changing and dh/dt is known.
 - Then the question to find rate of change of volume dV/dt is a question of related rate problem.

Strategy for solving related rates problems**1. Understand the situation**

- draw a figure (if possible)

2. Set up the problem

- List given information/data and the rate of change to be found.

- Mathematical model.

Express the above information in the form of mathematical equations.

3. Solve using differentiation

See examples done in class

End of 3.10