Name:

Exam Style Questions

Filling Containers

Corbettmaths

Equipment needed: Ruler, Calculator, Pencil and Pen

Guidance

1. Read each question carefully before you begin answering it.
2. Check your answers seem right.
3. Always show your workings

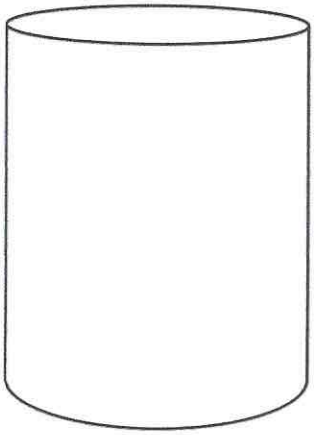
Video Tutorial

www.corbettmaths.com/contents

Video 171b

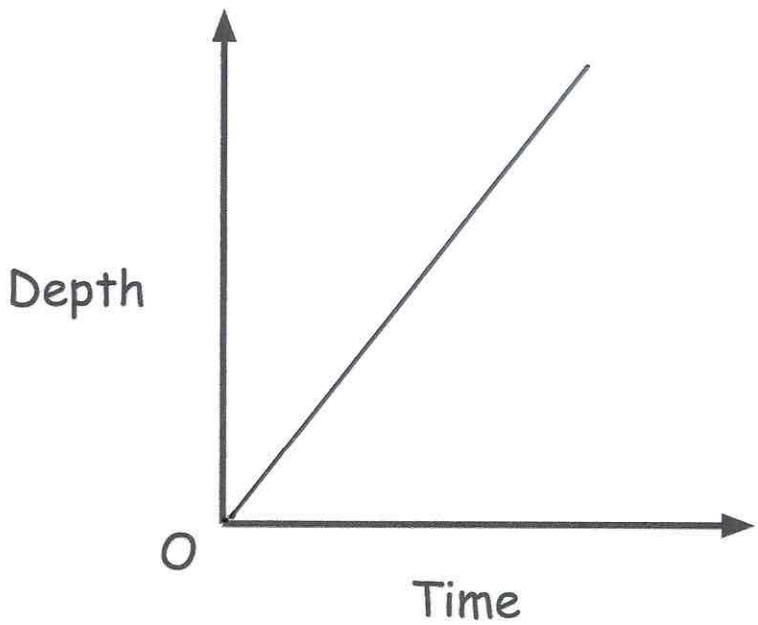
Answers and Video Solutions

1. Sean has a vase.



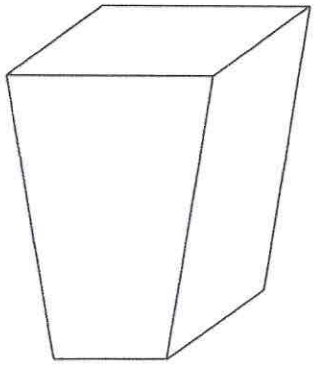
Sean fills the vase with water at a constant rate.

Draw a graph to represent the depth of water in the vase as it is being filled.



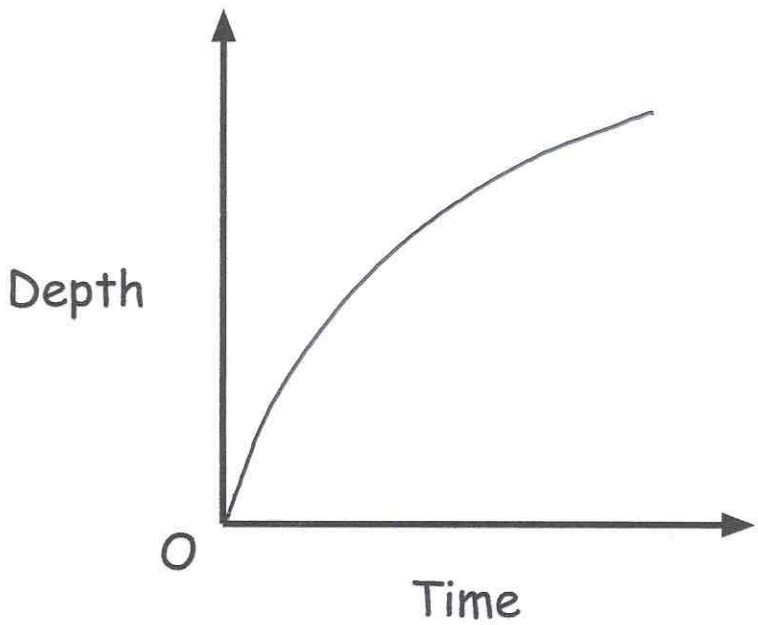
(1)

2. Shown below is a container.



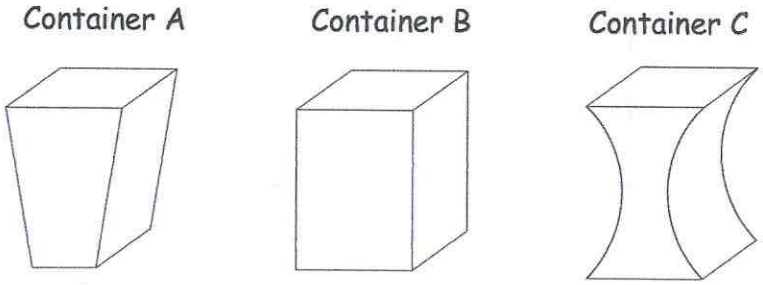
Water is poured into the container at a steady rate.

Draw a graph to represent the depth of water in the container as it is being filled.

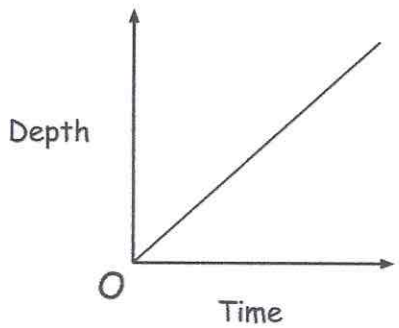


(1)

3. Three containers are filled with water that is poured at a constant rate.



The graph shows the depth of water in one of the containers as it is filled.

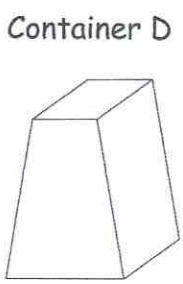


(a) Which container does the graph above represent?

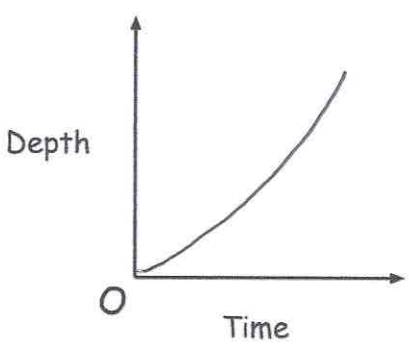
Container.....B.....

(1)

A fourth container, D, is filled with water poured at a constant rate.

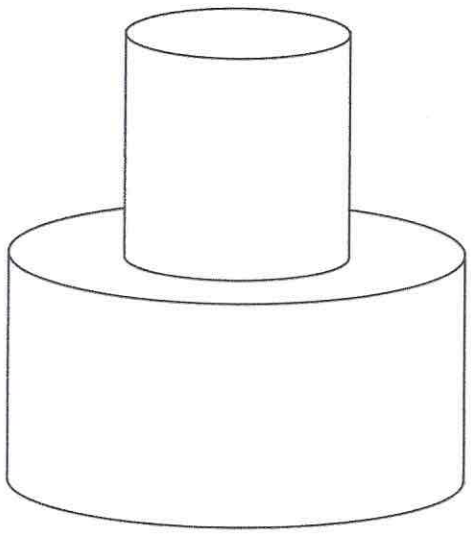


(b) Sketch a graph to represent the depth of water in container D as it is filled.



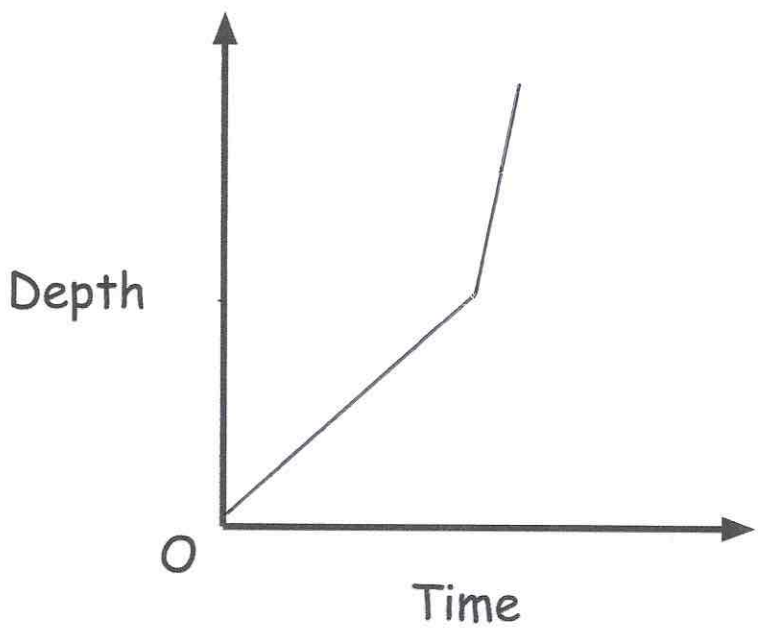
(1)

4. A builder installs a new oil tank.



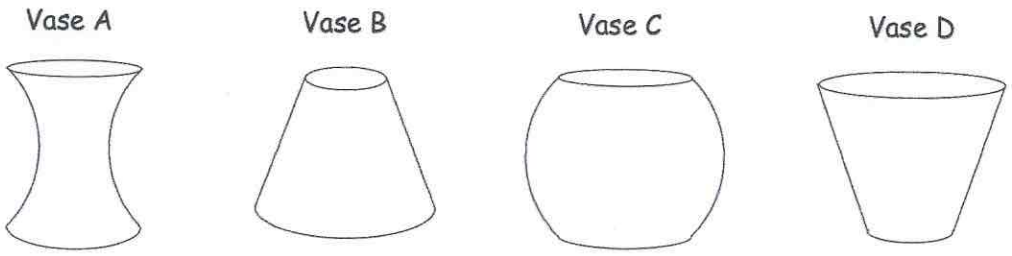
The oil tank is filled with oil that is poured at a steady rate.

Draw a graph to represent the depth of oil in the tank as it is being filled.



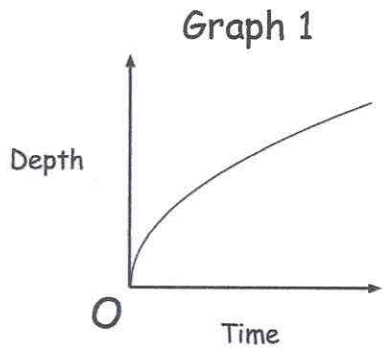
(1)

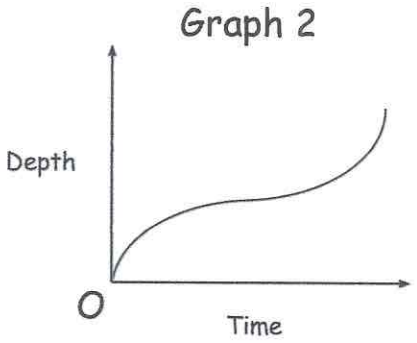
5. Shown below are four vases.

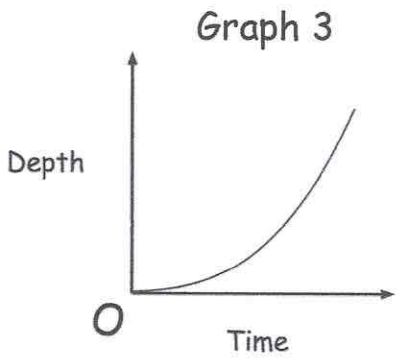


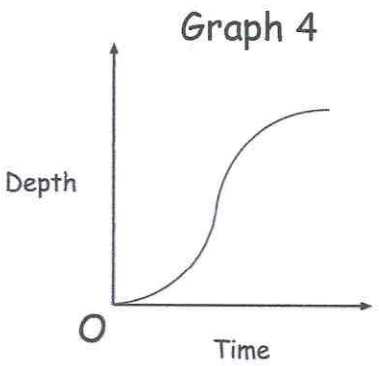
Each vase is filled with water that is poured in at a constant rate.

Below four graphs show the depth of water in each vase as it is being filled.









Match each vase to the correct graph.

	Graph
Vase A	4
Vase B	3
Vase C	2
Vase D	1

(2)

6. Daisy has an empty cylindrical tank with a diameter of 80cm.

Daisy starts filling the tank with water at a steady rate.
After 40 seconds, the tank is two-thirds full.

120cm → 2/3 full

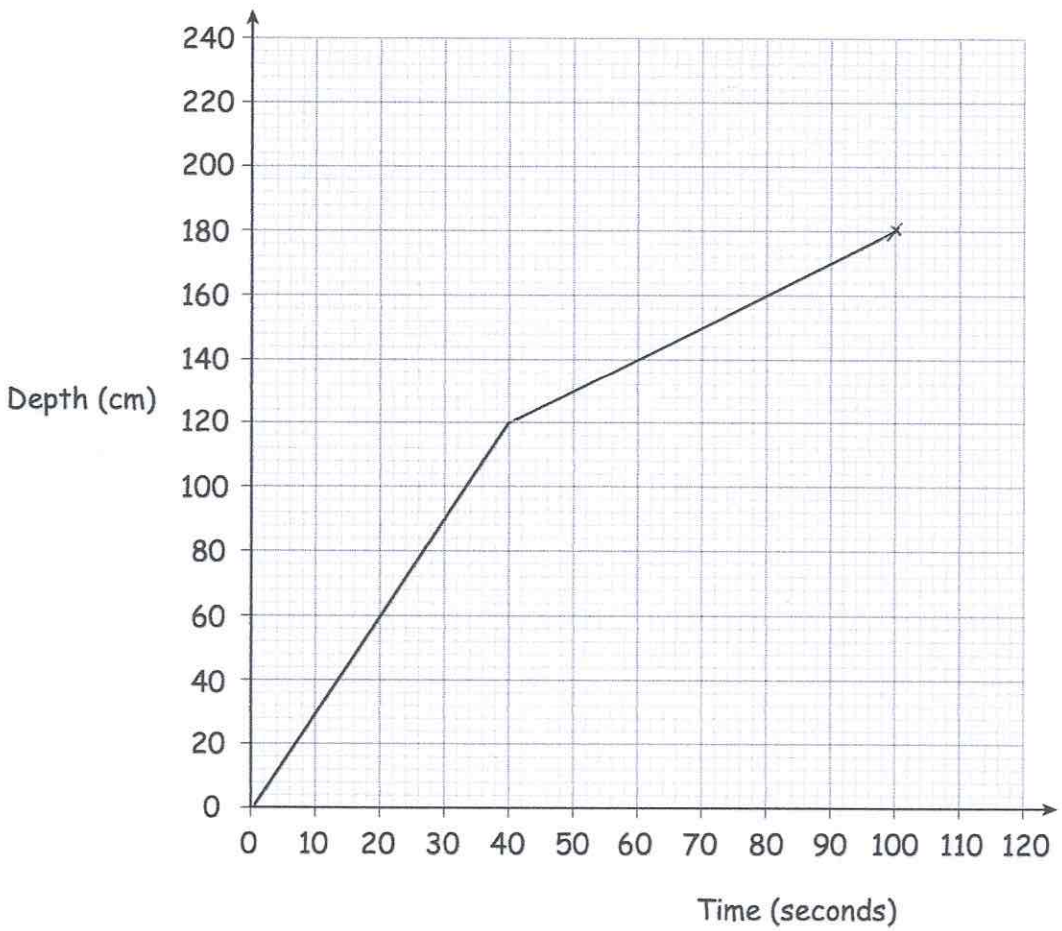
Daisy then reduces the rate at which she is filling the tank.
The tank is completely full after a further 60 seconds.

60cm → 1/3 full

180 cm → full

40 + 60 = 100 seconds

(a) Complete the graph for the information above.



(2)

(b) Calculate the volume of water in the tank.
Give your answer in litres.

$V = \pi \times r^2 \times h$

$= \pi \times 40^2 \times 180$

$= 904778.6842\ cm^3$

1 litre $= 1000\ cm^3$

$904778.6842 \div 1000 = 904.77868...$

904.78 .....litres

(3)