GCSE Boot Camp

Foundation Maths Week 4 Workbook

Questions

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Topics

Hello! Welcome to week 4 of your 8 week GCSE Boot Camp.

Every week you'll get a practice workbook to work through a range of topics, taken from our GCSE Foundation Advanced course.

We've also included links to 2 of our expert tutorial videos on some of these exact questions. That way, if you get stuck, you can try watching one of our tutorial videos with our Maths expert Patricia. For <u>full access to all of the corresponding videos</u> sign up for a SchoolOnline subscription from £8.99 a month.

In next week's email we'll send you the answers to this workbook to download *PLUS* a brand new workbook to practice.

Your week 4 workbook topics are:
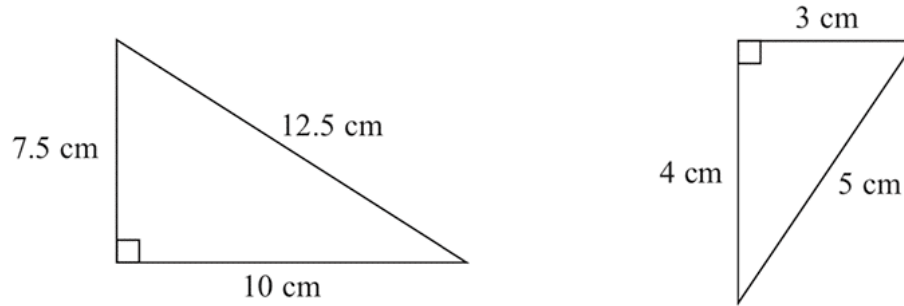
- Angles and Geometry
- Shape and Area

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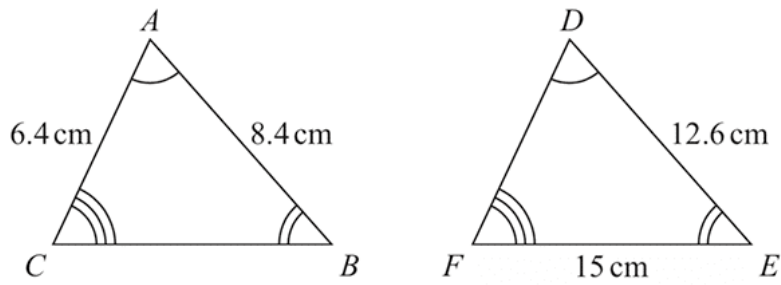
GCSE Foundation Maths - Angles and Geometry

Similar Triangles

21

Show that these two triangles are mathematically similar.

(Total for Question 21 is 2 marks)

Similar Shapes

27 Triangle *ABC* and triangle *DEF* are similar.

(a) Work out the length of *DF*.

.... cm

(2)

(b) Work out the length of *CB*.

.... cm

(2)

(Total for Question 27 is 4 marks)

Similar Triangles

21
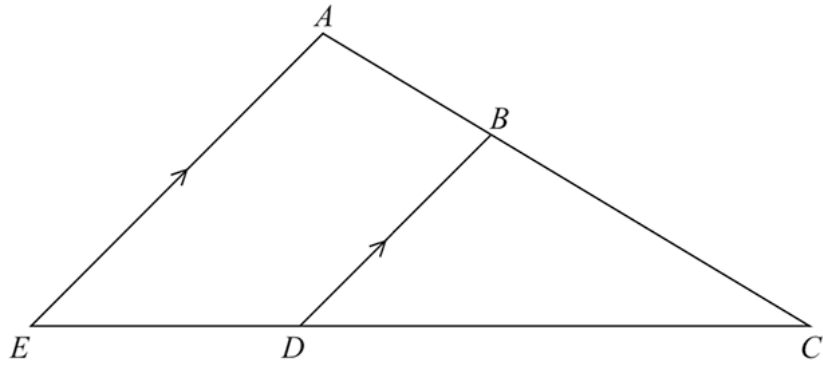
ABC and *EDC* are straight lines.
EA is parallel to *DB*.

EC = 8.1 cm.
DC = 5.4 cm.
DB = 2.6 cm.

(a) Work out the length of *AE*.

.... cm

(2)

AC = 6.15 cm.

(b) Work out the length of *AB*.

.... cm

(2)

(Total for Question 21 is 4 marks)

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GCSE MATHEMATICS PAPER 3 (Calculator) **21**

Show that these two triangles are mathematically similar.

7.5 cm   12.5 cm   10 cm

3 cm   4 cm   5 cm
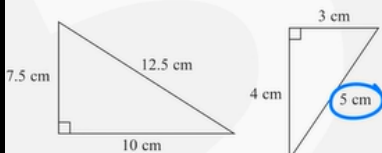
Click to play!

**Need some extra help? That's what we're here for!**

In this video Patricia will take a look at the first question in the Angles and Geometry section of your workbook (Q21), showing you how to answer this question on similar triangles.

Grab your pen and paper and remember to take notes! If you want more access to awesome videos like this, sign up for a full SchoolOnline subscription here.

NOTES

26 Here is a triangular prism.
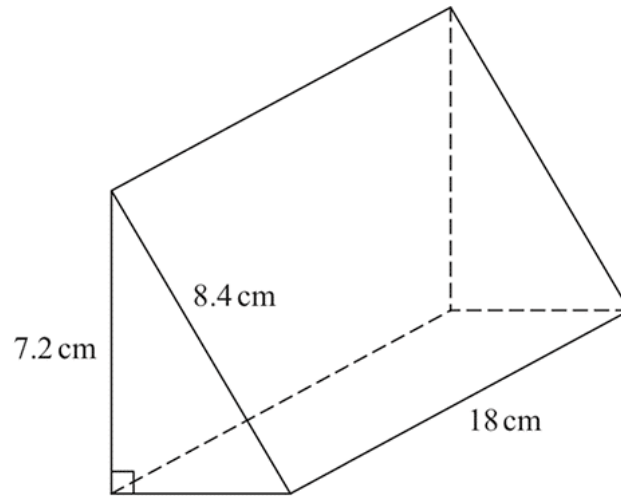
Work out the volume of the prism.
Give your answer correct to 3 significant figures.

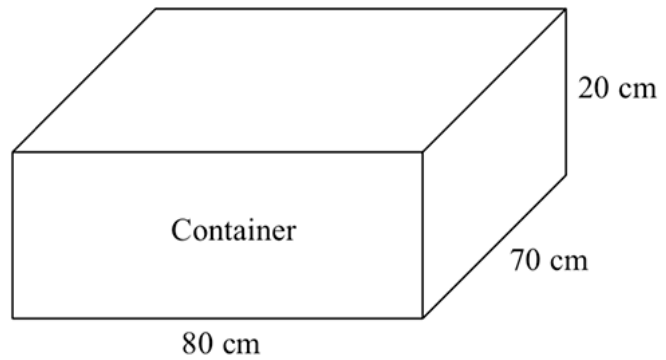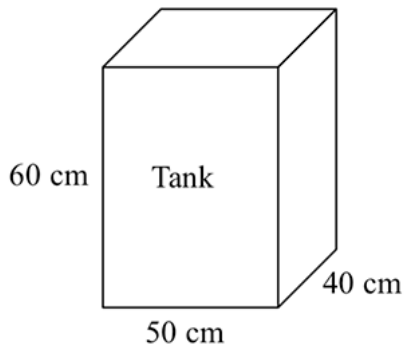.. cm³

Sample A Foundation Calc Paper 2

14 The diagram shows a tank in the shape of a cuboid.
It also shows a container in the shape of a cuboid.

60 cm   Tank

40 cm

50 cm

20 cm

Container

70 cm

80 cm

The tank is full of oil.
The container is empty.

35% of the oil from the tank is spilled.
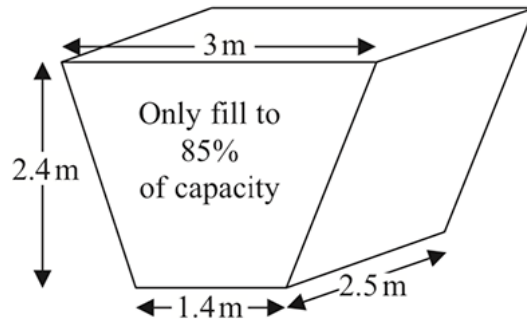The rest of the oil from the tank is put into the container.

Work out the height of the oil in the container.
Give your answer to an appropriate degree of accuracy.

.... cm

(Total for Question 14 is 5 marks)

Volume

29 The diagram shows an oil tank in the shape of a prism.
The cross section of the prism is a trapezium.

The tank is empty.

Oil flows into the tank.
After one minute there are 300 litres of oil in the tank.

Assume that oil continues to flow into the tank at this rate.

(a) Work out how many **more** minutes it takes for the tank to be 85% full of oil.
    ($1 \, m^3 = 1000$ litres)

.... minutes

(5)

The assumption about the rate of flow of the oil could be wrong.

(b) Explain how this could affect your answer to part (a).

....

....

(1)

(Total for Question 29 is 6 marks)

12 The diagram shows a cube of side length 2 cm.

2 cm

2 cm

2 cm
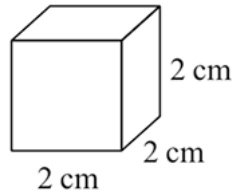
Vera says,

"The volume of any solid made with 6 of these cubes is 48 cm³"

(a) Is Vera correct?
You must show your working.

....

....

(2)

(b) (i) Draw a cuboid that can be made with 6 of these cubes.
Write the dimensions of the cuboid on your diagram.

(1)

(ii) Work out the surface area of your cuboid.

....cm²

(2)

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Click to play!

Need some extra help? That's what we're here for!

In this video Patricia will explain how to answer the first question on the Shape and Area section of your workbook (Q26) which looks at the volume of a triangular prism.

Grab your pen and paper and remember to take notes! If you want more access to awesome videos like this, **sign up for a full SchoolOnline subscription here.**

$$6x_2 - 2x_3 + x_4 = 7$$

$$2x - 3x = 13$$

NOTES