GCSE Boot Camp

Higher Maths Week 3 Workbook

Questions

GCSE Boot Camp

Topics

Hello! Welcome to week 3 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 Higher Intermediate 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 3 workbook topics are:

- Ratio, Proportion and Rates of change
- Geometry

SMARTER LEARNING
BETTER GRADES

Ratio, Proportion & Rates of Change GCSE 1

Compound Interest

June 2017 Higher Calc Paper 3

10 Naoby invests £6000 for 5 years.
The investment gets compound interest of x% per annum.

At the end of 5 years the investment is worth £8029.35

Work out the value of x.

(Total for Question 10 is 3 marks)

Compound Growth and Decay

9 Jean invests £12000 in an account paying compound interest for 2 years.

In the first year the rate of interest is $x\%$
At the end of the first year the value of Jean's investment is £12336

In the second year the rate of interest is $\dfrac{x}{2}\%$

What is the value of Jean's investment at the end of 2 years?

£...

(Total for Question 9 is 4 marks)

Ratio

1   Frank, Mary and Seth shared some sweets in the ratio 4 : 5 : 7
    Seth got 18 more sweets than Frank.

    Work out the total number of sweets they shared.

    ....

    (Total for Question 1 is 3 marks)

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**GCSE MATHEMATICS
PAPER 3 (Calculator)**

10   600

Naoby invests **£6000 for 5 years.**

The investment gets compound interest of **x%** per annum.

At the end of **5 years** the investment is worth **£8029.35**

Work out the value of x.

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 in the Ratio, Proportion and Statistics section of your workbook (Q10) which looks at Compound Interest.
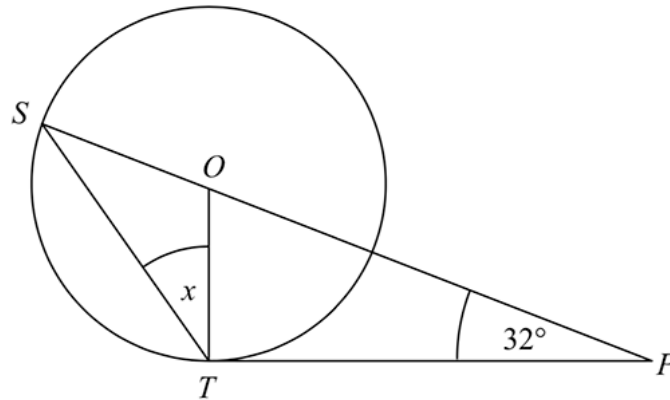
Grab your pen and paper and remember to take notes! If you want more access to awesome videos like this, <u>sign up for a full SchoolOnline subscription here.</u>

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

$$2x - 3x = 13$$

NOTES

Geometry GCSE 2

Circle Theorems

11

S and T are points on the circumference of a circle, centre O.
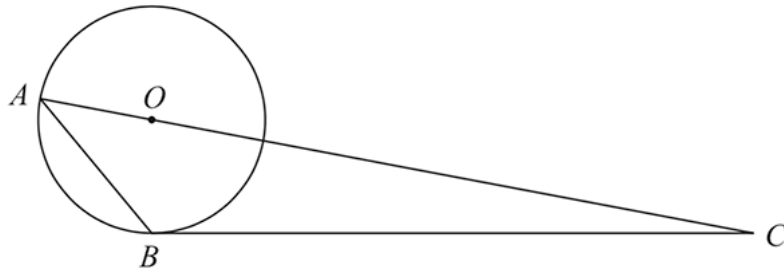PT is a tangent to the circle.
SOP is a straight line.
Angle $OPT = 32°$

Work out the size of the angle marked x.
You must give a reason for each stage of your working.

(Total for Question 11 is 4 marks)

11

A and *B* are points on a circle, centre *O*.

BC is a tangent to the circle.
AOC is a straight line.
Angle *ABO* = $x°$.
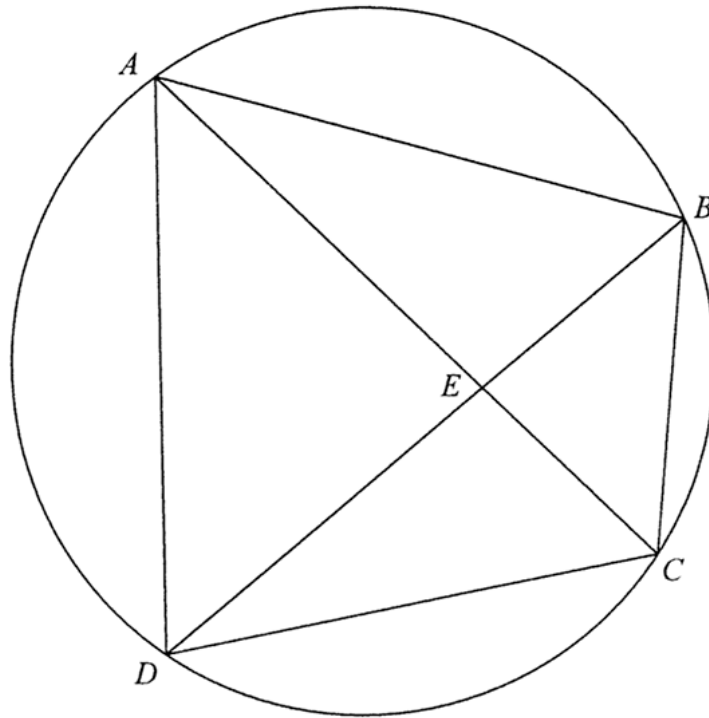
Find the size of angle *ACB*, in terms of *x*.
Give your answer in its simplest form.
Give reasons for each stage of your working.

(Total for Question 11 is 5 marks)

15 *A*, *B*, *C* and *D* are four points on the circumference of a circle.
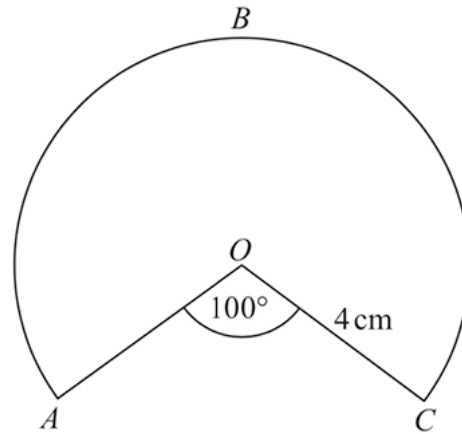

AEC and *BED* are straight lines.

Prove that triangle *ABE* and triangle *DCE* are similar.
You must give reasons for each stage of your working.

Circumference of a Circle

16 The diagram shows a sector of a circle of radius 4 cm.

Work out the length of the arc ABC.
Give your answer correct to 3 significant figures.

....cm

(Total for Question 16 is 2 marks)

Arc length

17 The diagram shows a sector of a circle of radius 7 cm.

Work out the length of arc AB.
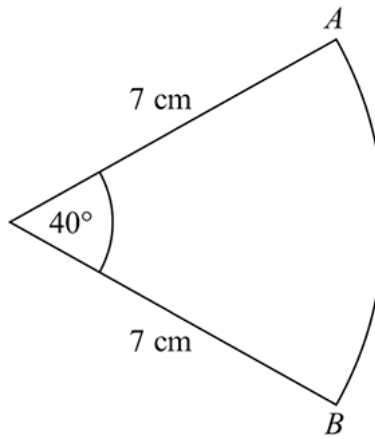Give your answer correct to 3 significant figures.

.... cm

(Total for Question 17 is 2 marks)

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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 Geometry section of your workbook (Q11) which looks at Circle Geometry.

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