GCSE Grade 5

Maths Booklet 3

Paper 2H
Calculator

www.ggmaths.co.uk

1 Use your calculator to work out

$$\frac{\sqrt[3]{1.57^4 + \tan 60°}}{7.2^{\frac{1}{2}}}$$

Give your answer correct to 3 significant figures.

.....

(Total for Question 1 is 2 marks)

2 A box in the shape of a cuboid is placed on a horizontal floor.

$$\text{pressure} = \frac{\text{force}}{\text{area}}$$

The box exerts a force of 180 newtons on the floor.
The box exerts a pressure of 187.5 newtons/m^2 on the floor.

The face in contact with the floor is a rectangle of length 1.2 metres and width x metres.

Work out the value of x.

$x =$ .....

(Total for Question 2 is 3 marks)

3 The nth term of a sequence is $2n^2 - 1$

The nth term of a different sequence is $40 - n^2$

Show that there is only one number that is in both of these sequences.

(Total for Question 3 is 3 marks)

4 Work out $(3.42 \times 10^{-7}) \div (7.5 \times 10^{-6})$
Give your answer in standard form.

.....

(Total for Question 4 is 2 marks)

5 The number of days, d, that it will take to build a house is given by

$$d = \frac{720}{n}$$

where n is the number of workers used each day.

Ali's company will take 40 days to build the house.
Hayley's company will take 30 days to build the house.

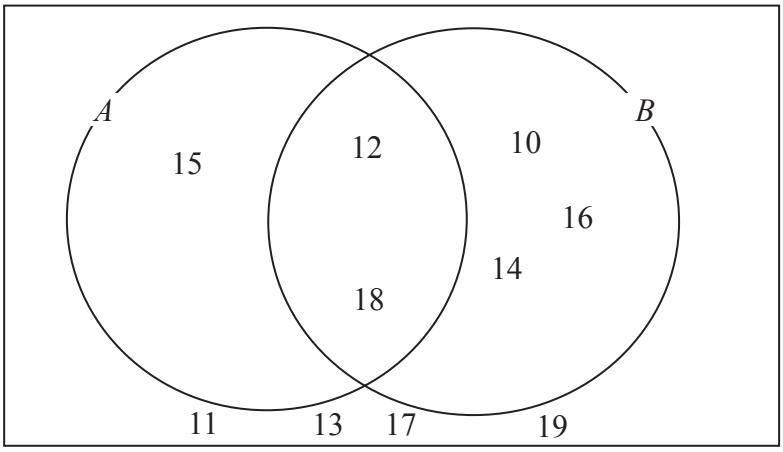
Hayley's company will have to use more workers each day than Ali's company.

How many more?

.....

(Total for Question 5 is 3 marks)

6 Here is a Venn diagram.



(a) Write down the numbers that are in set

(i) $A \cup B$

.....

(ii) $A \cap B$

.....

(2)

One of the numbers in the diagram is chosen at random.

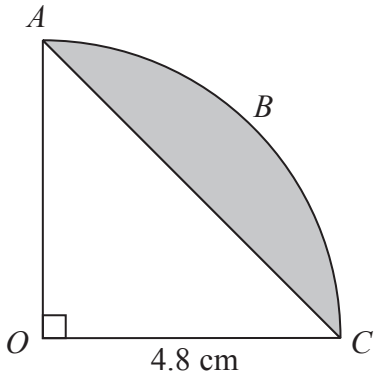
(b) Find the probability that the number is in set A'

.....

(2)

(Total for Question 6 is 4 marks)

7



The arc ABC is a quarter of a circle with centre O and radius 4.8 cm.
AC is a chord of the circle.

Work out the area of the shaded segment.
Give your answer correct to 3 significant figures.

.....cm^2

(Total for Question 7 is 3 marks)

8 Steve is asked to solve the equation $5(x + 2) = 47$

Here is his working.

$$5(x + 2) = 47$$
$$5x + 2 = 47$$
$$5x = 45$$
$$x = 9$$

Steve's answer is wrong.

(a) What mistake did he make?

.....

.....

(1)

Liz is asked to solve the equation $3x^2 + 8 = 83$

Here is her working.

$$3x^2 + 8 = 83$$
$$3x^2 = 75$$
$$x^2 = 25$$
$$x = 5$$

(b) Explain what is wrong with Liz's answer.

.....

.....

(1)

(Total for Question 8 is 2 marks)