

C

- 12 The value of a boat depreciates by 16% each year.
At the end of 2012, the value of the boat is £65 000

Work out the value of the boat at the end of 2015

£

(Total for Question 12 is 3 marks)

- 13 Solve $3x^2 + 2x - 7 = 0$
Give your solutions correct to 3 significant figures.
Show your working clearly.

.....
(Total for Question 13 is 3 marks)



C

14 (a) Factorise $a^2 - b^2$

.....
(1)

$$N = 2^{22} - 1$$

(b) Write N as the product of two integers, both of which are greater than 1000

..... ×
(2)

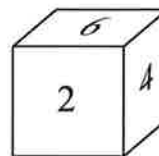
(Total for Question 14 is 3 marks)



C

20 Leonidas has a fair dice.

He throws the dice twice.



(a) Work out the probability that he gets the number 5 both times.

.....
(2)

Alicia has a fair dice.

She throws the dice 3 times.

(b) Work out the probability that she gets the number 5 exactly once.

.....
(3)

(Total for Question 20 is 5 marks)

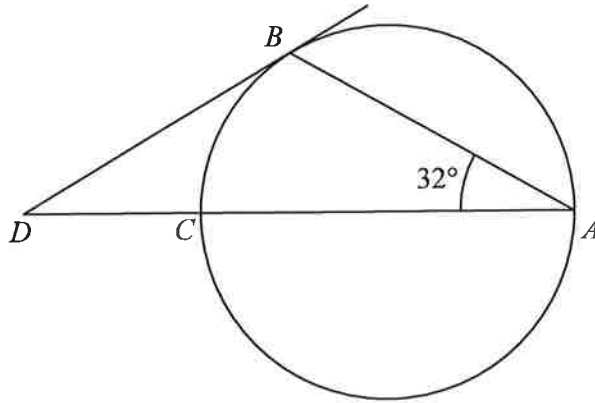


B

C

21

Diagram NOT
accurately drawn



A , B and C are three points on a circle.

DCA is a straight line.

CA is a diameter of the circle.

DB is a tangent to the circle.

Calculate the size of angle CDB .

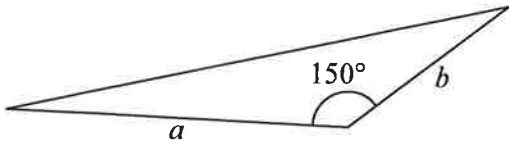
(Total for Question 21 is 3 marks)



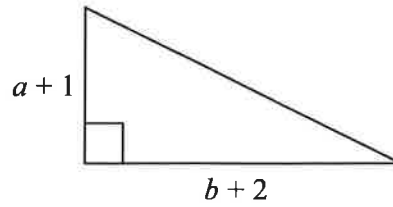
C

22 The diagram shows two triangles, **A** and **B**.

Diagram **NOT** accurately drawn



Triangle **A**



Triangle **B**

The area of triangle **B** is 3 times the area of triangle **A**.

Given that $b > 4$, find an expression for a in terms of b .

↓

$a = \dots\dots\dots$

(Total for Question 22 is 5 marks)



23 Solve $x^2 + y^2 = 20$
 $y = 10 - 2x$

Show clear algebraic working.

(Total for Question 23 is 5 marks)

TOTAL FOR PAPER IS 100 MARKS

