

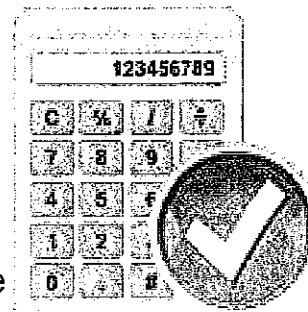
Year 11 – Set 2
Revision Homework
Easter Holidays

Name: _____

Teacher: _____

Instructions

- Answer **all** questions.
- Answer the questions in the spaces provided – *there may be more space than you need.*
- You must **show all your working.**
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- **Calculators may be used.**
- The marks for **each** question are shown in brackets – *use this as a guide as to how much time to spend on each question.*



Advice

- Read each question carefully before you start to answer it.
- Try to answer every question.
- Check your answers.

It is important that you put maximum effort into all homework tasks!

If you are having problems with any of the questions use the Corbett Maths website to support you. We have put the relevant video number next to each question to help you.

The following sites may also be useful:

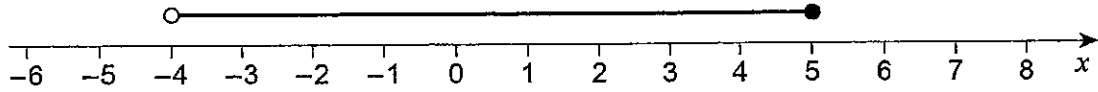
- PiXL Maths App
- MrBartonMaths – use the student section
- Mathsgenie
- MyMaths (croftonhs, pentagon)
- GCSE Bitesize

Your Class teacher will go through the questions in the first week after Easter.

Answer **all** questions in the spaces provided

- 1 Circle the inequality shown by the diagram.

Video 177



[1 mark]

$-4 \leq x < 5$

$-4 \leq x \leq 5$

$-4 < x < 5$

$-4 < x \leq 5$

- 2 y is 100% more than x .

Circle the ratio $x : y$

[1 mark]

$1 : 100$

$100 : 1$

$1 : 2$

$2 : 1$

- 3 The first four terms of a sequence are -10 -8 -6 -4

Video 288

Circle the expression for the n th term of the sequence.

[1 mark]

$-12 - 2n$

$-8 - 2n$

$n + 2$

$2n - 12$



- 4 Circle the equation of the line that is parallel to the x -axis.

Video 192/193

[1 mark]

$$y = -5$$

$$x - y = 0$$

$$x = 3$$

$$x + y = 0$$

- 5 Multiply out and simplify $(x - 8)^2$

Video 14

[2 marks]

Answer _____

Turn over for the next question



- 6 Show that 268 can be written as the sum of a power of 3 and a square number.

[2 marks]

Video 172

Answer _____

- 7 Here is some information about the times taken by 40 people to fill in a form.

Video 51

Time, t minutes	Number of people
$0 < t \leq 5$	3
$5 < t \leq 10$	9
$10 < t \leq 15$	11
$15 < t \leq 20$	17

In which class interval is the median?

Circle your answer.

[1 mark]

$0 < t \leq 5$ $5 < t \leq 10$ $10 < t \leq 15$ $15 < t \leq 20$



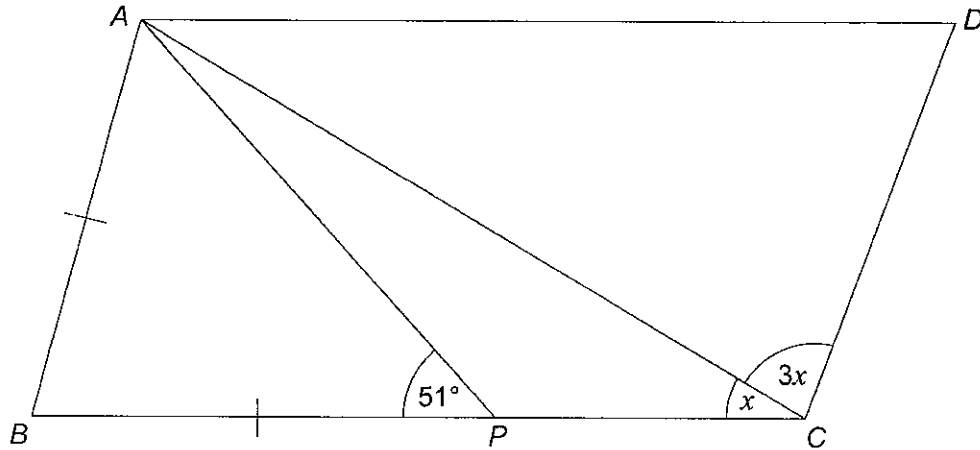
8

ABCD is a parallelogram.

AB = BP

Video 33 / 37

Not drawn accurately



Work out the size of angle x .

[4 marks]

Answer _____ degrees

Turn over for the next question

<hr style="width: 100%;"/> <p>7</p>

Turn over ►



9 (a) Rearrange $v = u + at$ to make t the subject of the formula.

[2 marks]

Video 7

Answer _____

9 (b) Complete this table with consistent metric units.

[2 marks]

Video 29A

Distance	Time	Speed	Acceleration
m	s		



10

Construct a locus of points that are the same distance from points A and B.

[2 marks]

Video 78

•
A

•
B

Turn over for the next question

6

Turn over ►

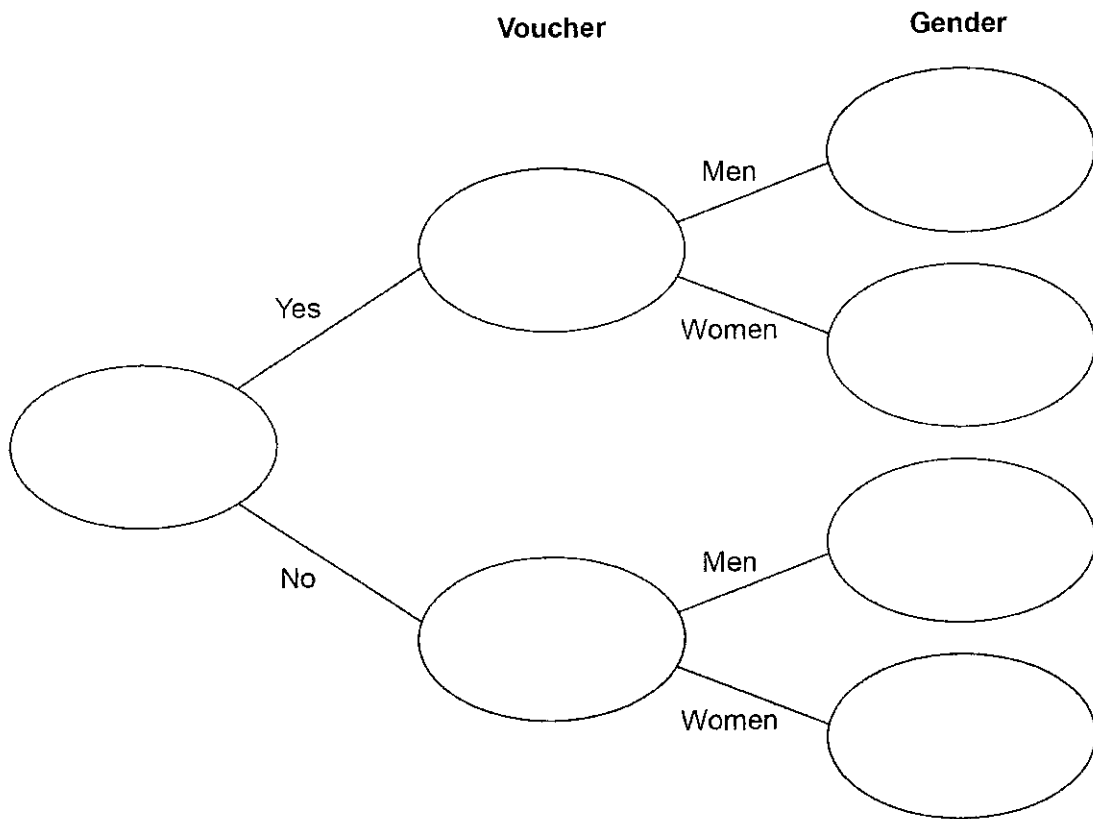


- 11 42 men and 38 women visit a restaurant.
44 of these people have a voucher.
Three times as many men as women do **not** have a voucher.

11 (a) Complete the frequency tree.

[4 marks]

Video 376



- 11 (b) A voucher takes **15% off** the bill.
After using the voucher, the bill for a meal is £27.20

Video 240

How much was the bill before using the voucher?

[3 marks]

Answer £ _____

Turn over for the next question

7

Turn over ►



12 The distance by road from Newport to London is 140 miles.

Tom travels by coach from Newport to London.
The coach leaves Newport at 1.30 pm

Video 299

12 (a) He assumes the coach will travel at an average speed of 50 mph

Use his assumption to work out the arrival time in London.

[3 marks]

Answer

12 (b) In fact, the coach has a lower average speed.

How does this affect the arrival time?

[1 mark]



13

Here is some information about the length of time cars stayed in a car park.

Video 149.

Shortest time 30 minutes

Lower quartile 2 hours

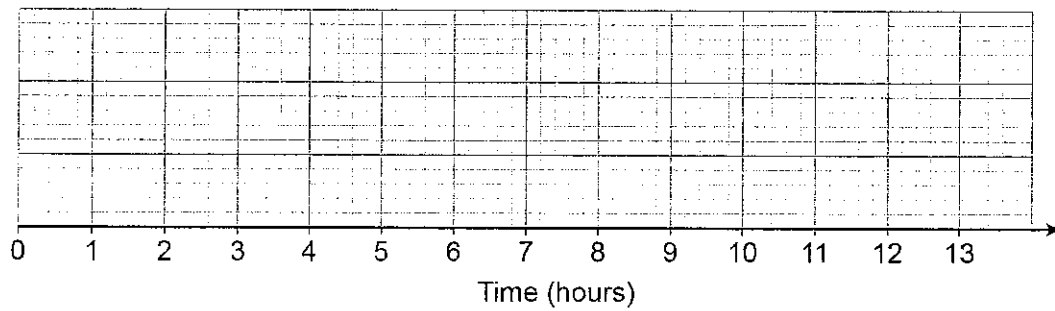
Longest time 12 hours

Interquartile range 3 hours

Median time 4 hours

Draw a box plot to show this information.

[3 marks]



Turn over for the next question

7

Turn over ►



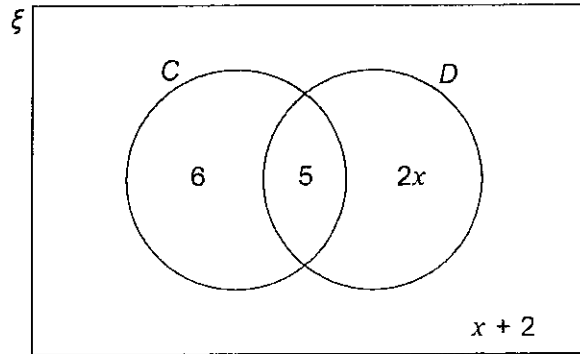
14

In the Venn diagram

ξ represents 31 students in a class

C is students who have a cat

D is students who have a dog



14 (a) One student from the class is picked at random.

Video 15

Work out the probability that the student has a dog.

[3 marks]

Answer _____

14 (b) One of the students who has a cat is picked at random.

Video 245

Work out the probability that this student has a dog.

[1 mark]

Answer _____



15

Circle the highest common factor (HCF) of $6xy^2$ and $4x^3y$

Video 219

[1 mark]

$2xy^2$

$2xy$

$12x^3y^2$

$24x^4y^3$

16

$f(x) = x^2 - x^3$

Circle the value of $f(-3)$

Video 20/370

[1 mark]

18

-18

36

-36

Turn over for the next question

Turn over ►



17

At a football game

number of men : number of women : number of children = 13 : 5 : 7

There are 4152 **more** men than women.

Video 271b

Work out the number of children at the game.

[3 marks]

Answer _____

18

Expand and simplify $(3x^2 + 2)(2x + 5) - 6x(x^2 - 3)$

Video 13/14/3

[4 marks]

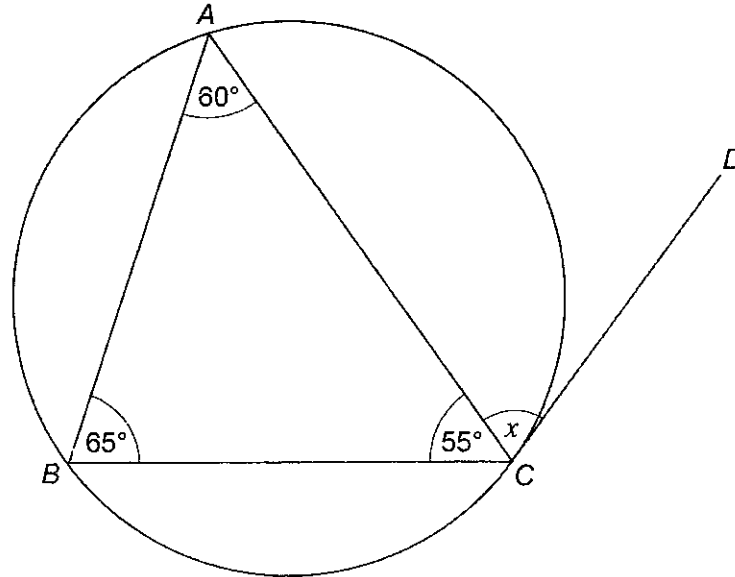
Answer _____



19

A , B and C are points on a circle.
 CD is a tangent to the circle.

Video 64

Not drawn
accuratelyWrite down the size of angle x .

Give a reason for your answer.

[2 marks]

Answer _____ degrees

Reason _____

Turn over for the next question

Turn over ►



20

 w is a positive number. x is 10% more than w . y is 10% less than x .

Which statement is true?

Tick **one** box.

Video 238

[1 mark] $w < x$ and $w < y$ $w < x$ and $w = y$ $x > y$ and $w > y$ $x > y$ and $w = y$

21

 N is a number.As a product of prime factors in index form $N = 2 \times 3^4 \times y^3$

Video 223/174

Work out $3N^2$ as a product of prime factors in index form.Give your answer in terms of y .**[3 marks]**

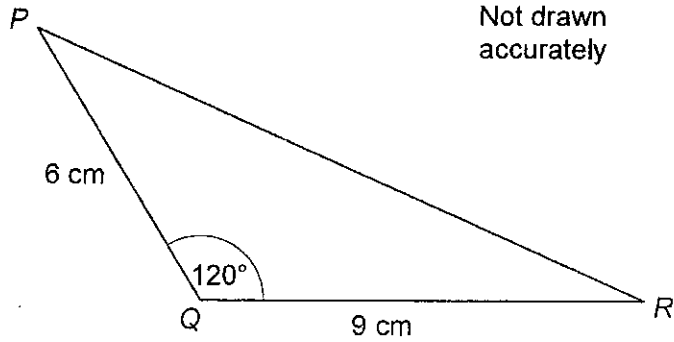
Answer _____



22

Here is a triangle.

Video 335

Not drawn
accuratelyWork out the length PR .**[3 marks]**

Answer _____ cm

Turn over for the next question

7

Turn over ►

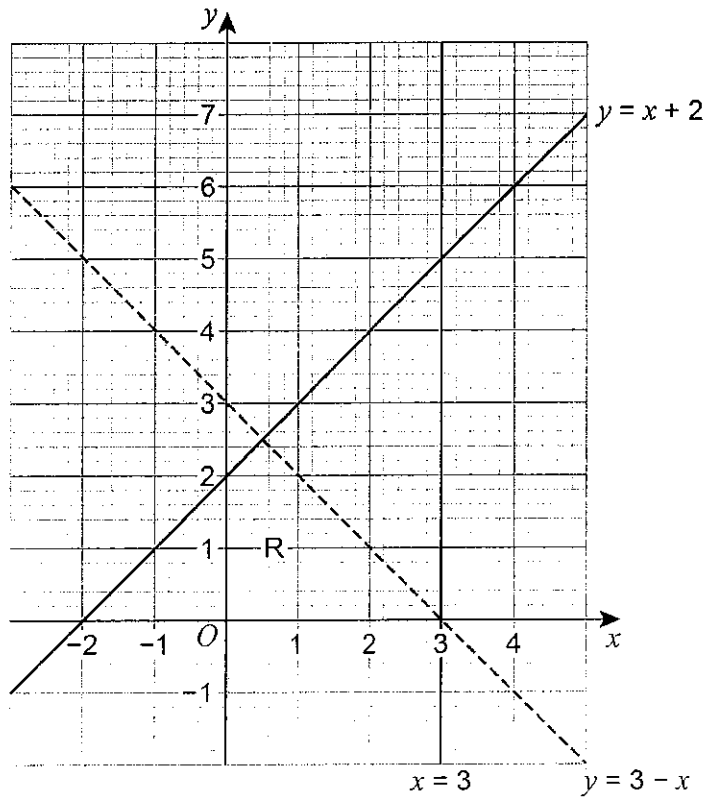


23

Joe draws this graph to identify the region R represented by

Video 182

$$y \leq x + 2 \text{ and } y > 3 - x \text{ and } x < 3$$



Make **two** criticisms of his graph.

[2 marks]

Criticism 1

Criticism 2



24

$a : b = 9 : 4$ and $10b = 7c$

Video 271a

Work out $a : c$ in its simplest form.**[3 marks]**

Answer _____ :

Turn over for the next question

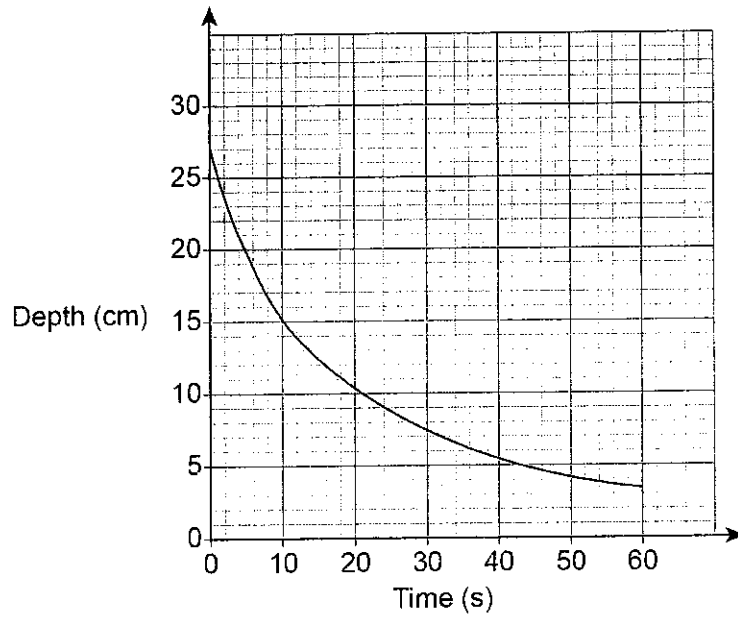
5

Turn over ►

25

Liquid is leaking out of a container.

The graph shows the depth of the liquid for 60 seconds.



Use the graph to work out an estimate of the rate of decrease of depth at 10 seconds.

You **must** show your working.

Video 390

[3 marks]

Answer _____ cm/s



26

$$a^2 - b^2 \equiv (a + b)(a - b)$$

Video 225

a and b are positive whole numbers with $a > b$

$a^2 - b^2$ is a **prime** number.

Why are a and b consecutive numbers?

[2 marks]

Turn over for the next question

5

Turn over ►



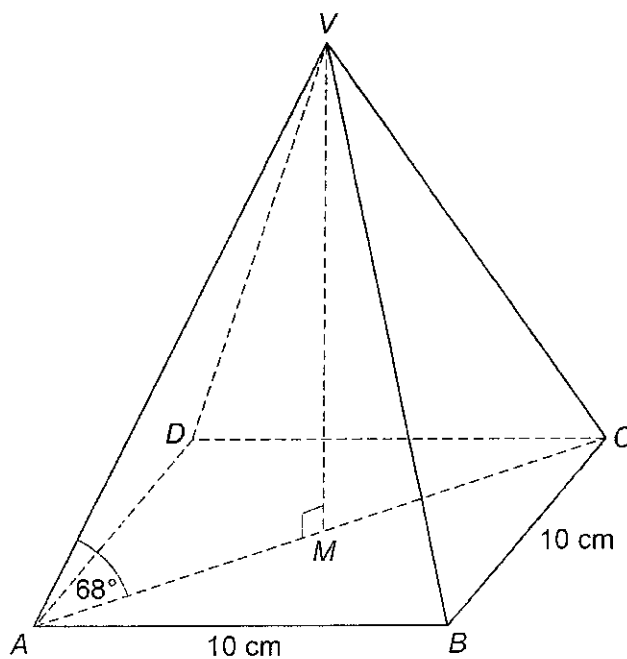
27

$VABCD$ is a square-based pyramid.

The horizontal base $ABCD$ has side length 10 cm and centre M .

Angle VMA is 90°

Angle VAM is 68°



$$\text{Volume of pyramid} = \frac{1}{3} \times \text{area of base} \times \text{perpendicular height}$$



Work out the volume of the pyramid.

Video 257/330

[6 marks]

Answer _____ cm^3

Turn over for the next question

6

Turn over ►



28

$y = p \times q^{x-1}$ where p and q are numbers.

Video 174/172

$y = 10$ when $x = 1$

$y = 0.3125$ when $x = 6$

Work out the value of y when $x = 3$

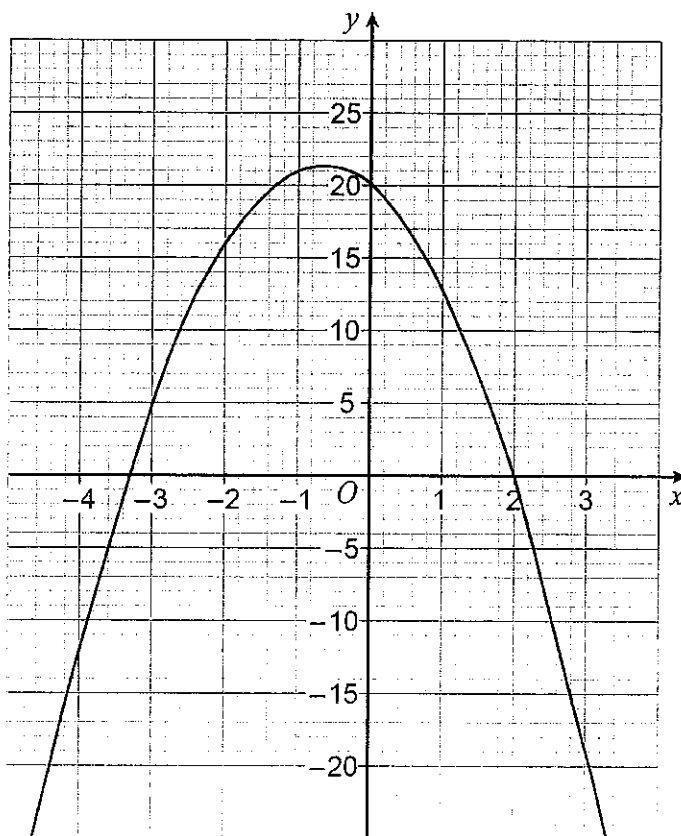
[5 marks]

Answer _____



29 Here is the graph of $y = f(x)$ where $f(x)$ is a quadratic function.

Video 378



Write down all the **integer** solutions of $f(x) \geq 0$

[2 marks]

Answer _____

Turn over for the next question

7

Turn over ►



30

$$f(x) = \frac{x}{3} + 4 \quad \text{for all values of } x.$$

$$g(x) = 6x^2 + 3 \quad \text{for all values of } x.$$

Video 370

Work out $fg(x)$.Give your answer in the form $ax^2 + b$ where a and b are integers.**[2 marks]**

Answer _____

END OF QUESTIONS

2



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