

Paper 2 Predictions

# Edexcel - Higher

## High Chance



Corbettmaths

Ensure you have: Pencil, pen, ruler, protractor, pair of compasses and eraser

You will need a calculator

### Guidance

1. Read each question carefully before you begin answering it.
2. Don't spend too long on one question.
3. Attempt every question.
4. Check your answers seem right.
5. Always show your workings

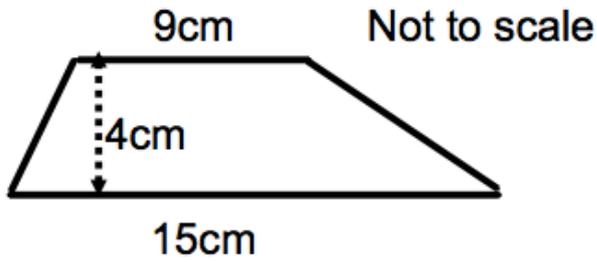
Revision for this test

[www.corbettmaths.com/contents](http://www.corbettmaths.com/contents)



Question	Topic	Video number
1	Area of a Trapezium	48
2	Angles in Polygons	32
3	Circumference	60
4	Volume of a Cylinder	357
5	Bearings	26, 27
6	Surface Area	311, 313, 314
7	Translation	325
8	Enlargements	104 to 108
9	Travel Graphs	171
10	Density	384
11	Recipes	256
12	Percentages	235
13	Standard Form	300, 301
14	Substitution	20
15	Forming and Solving Equations	114, 115
16	Changing the Subject	7, 8
17	Arc Length	58
18	Area of a Sector	48
19	Trigonometric Graphs	338, 339
20	Completing the Square	10
21	Conditional Probability	247
22	Metric/Imperial Units	349
23	3D Pythagoras	259
24	3D Trigonometry	332
25	Area of a Segment	63

1



Calculate the area of the trapezium.

.....cm<sup>2</sup>  
(2)

2. The diagram below shows part of a regular polygon.



(a) Calculate the size of each exterior angle.

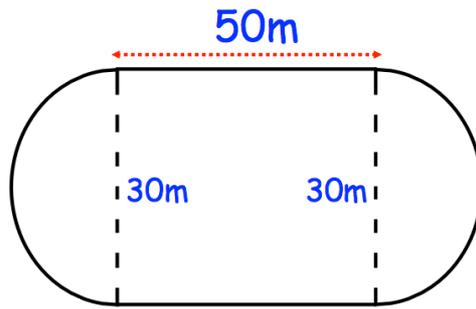
.....<sup>0</sup>  
(1)

(b) Calculate the number of sides the polygon has.

.....  
(2)

3. A primary school has a running track.

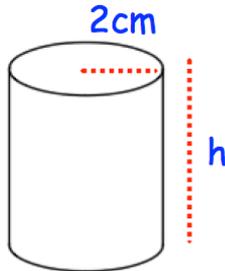
It has two straights of 50 metres.  
Also there are two 'bends' that are semicircles with diameter 30 metres.



Work out the distance around the running track.

.....m  
(5)

4.

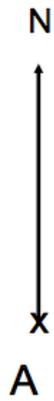


The volume of the cylinder is  $100\text{cm}^3$   
Calculate the height of the cylinder.

..... cm  
(3)

5.

The diagram shows the position of two towns, A and B.

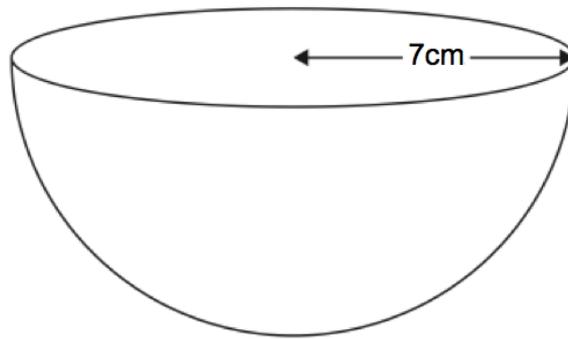


A rugby club, R, has bearing of  $110^\circ$  from town A.  
The rugby club, R, has bearing  $245^\circ$  from town B.

In the space above, show the position of the rugby club R.  
Mark the position with a cross (x) and label it R.

**(3)**

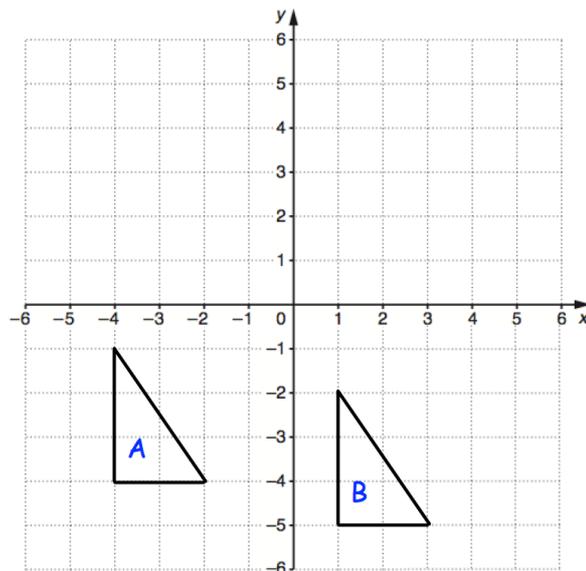
6. Shown below is a hemisphere.



Calculate the surface area of the hemisphere.

.....cm<sup>2</sup>  
**(4)**

7.

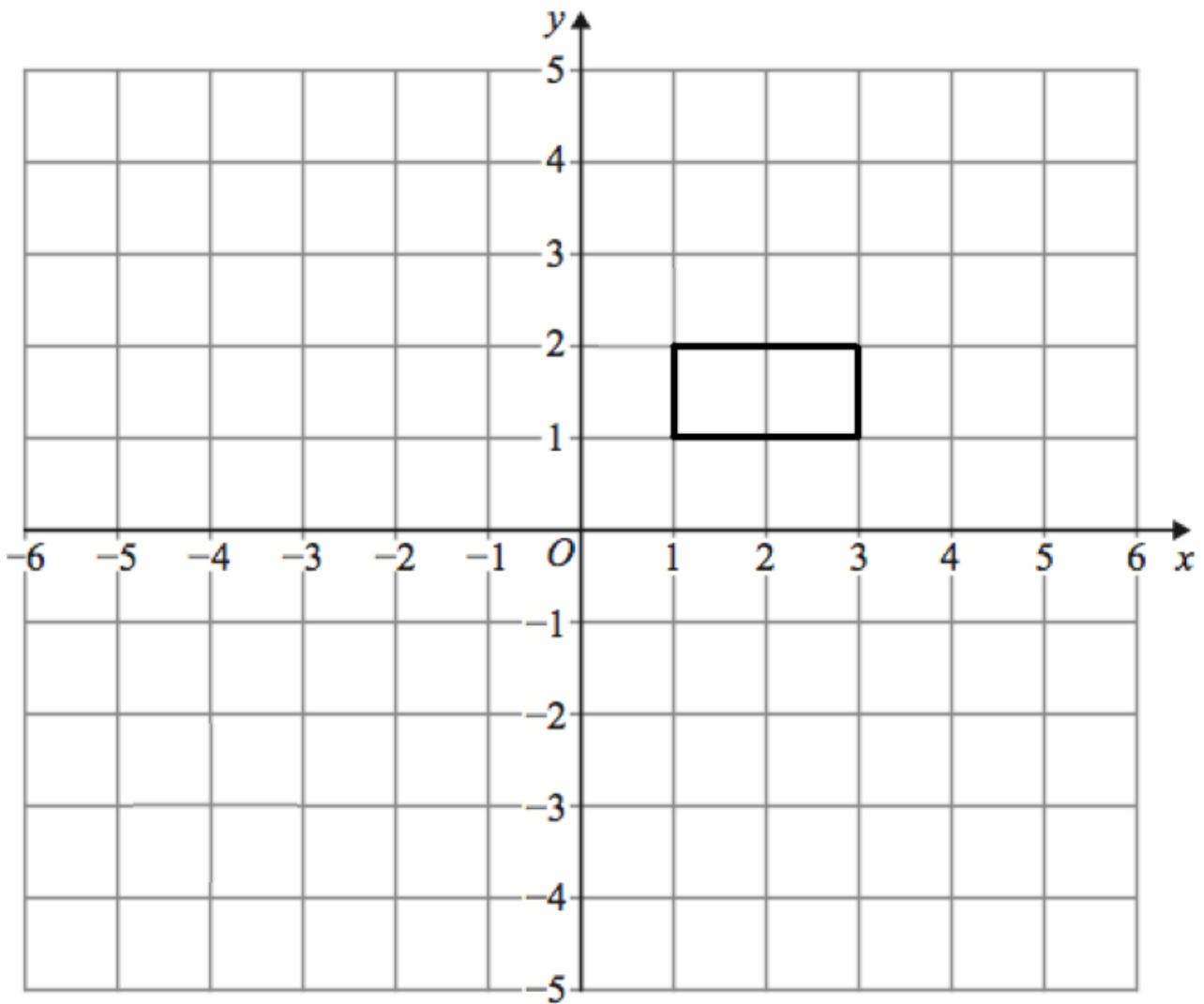


Describe fully the single transformation that maps shape A onto shape B.

.....  
.....

**(2)**

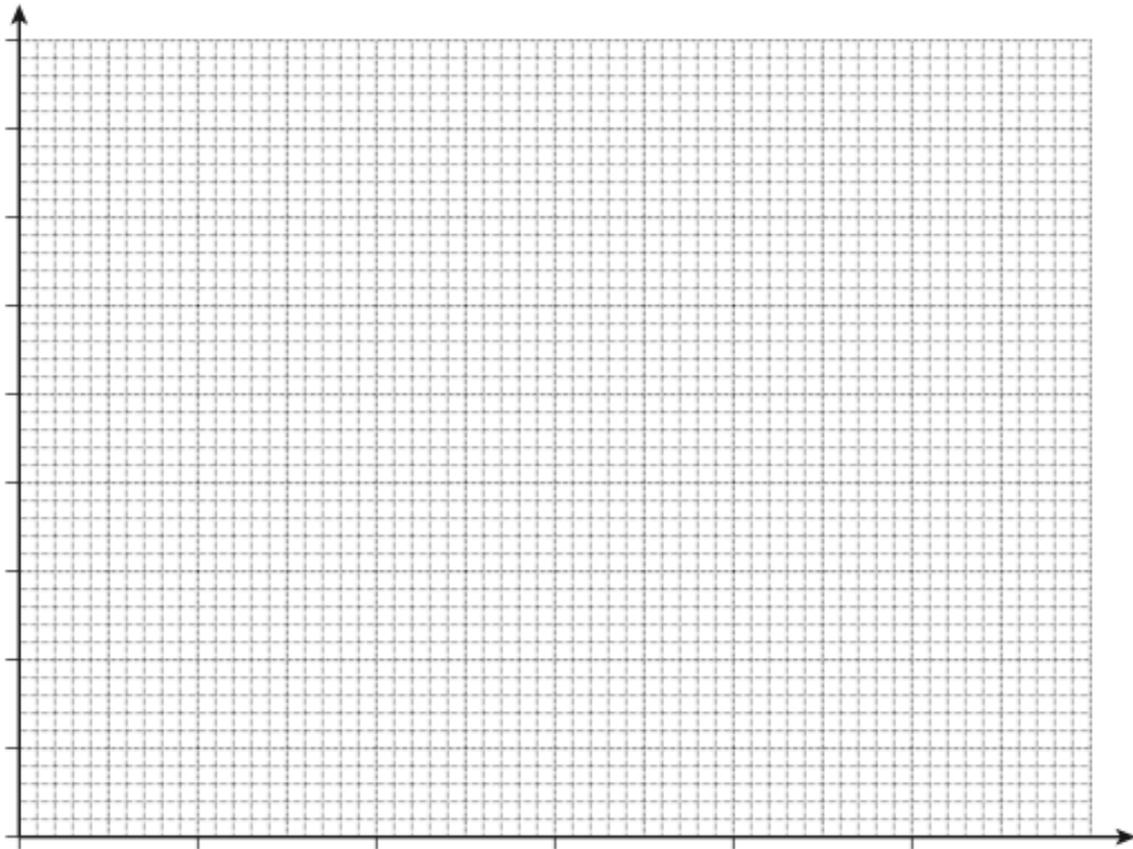
8. Shown below is a rectangle drawn on a coordinate grid.



Enlarge the rectangle by scale factor  $-2$ , using the origin as centre of enlargement.

**(3)**

9. Teddy leaves home at 13:00  
He drives at an average speed of 60km/h for 2½ hours  
Teddy stops for 30 minutes.  
He then drives home at an average speed of 50km/h



(a) Show this information on a distance-time graph.

**(4)**

(b) A film starts at 18:45

Does Teddy get home in time for the start?  
Explain your answer.

.....

.....

**(1)**

10. Material A has a density of  $5.8\text{g/cm}^3$ .  
Material B has a density of  $4.1\text{g/cm}^3$ .

377g of Material A and 1.64kg of Material B form Material C.

Work out the density of Material C.

..... $\text{g/cm}^3$   
**(4)**

---

11. Jo has a recipe for Bolognese Sauce,

### Bolognese Sauce

Minced Beef	500 g
Chopped Tomatoes	750 g
Mushrooms	40 g
Chicken Stock	150 ml

She only has 400g of minced beef.

How much of the other ingredients should she use?

Chopped Tomatoes: .....g

Mushrooms: .....g

Chicken Stock: .....g

**(3)**

12. Georgina needs to buy petrol for her car.

Her car can hold 70 litres of petrol.  
There are already 20 litres of petrol in the tank.  
Georgina is going to fill up the petrol tank.

The price of petrol is 115.9p per litre  
Georgina has a voucher that gives her 3% off the price of petrol.

How much does Georgina have to pay for the petrol?

£.....

---

**(5)**

13. Write the following numbers in standard form.

(a) 40000

.....  
**(1)**

(b) 5600

.....  
**(1)**

(c) 41200000

.....  
**(1)**

(d) 0.00000008

.....

(1)

14.  $y = w - 2a^2$

$w = 400$

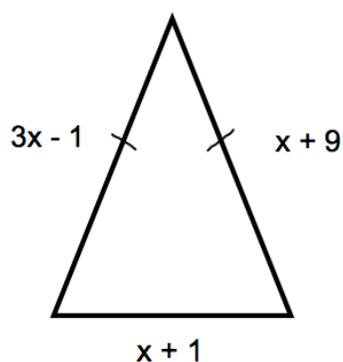
$a = 5$

Work out the value of  $y$ .

.....

(2)

15. Shown below is an isosceles triangle. Each side is measured in centimetres.



(a) Explain why  $3x - 1 = x + 9$

.....  
.....

(1)

(b) Solve the equation above.

$x = \dots\dots\dots\text{cm}$

(2)

(c) Calculate the perimeter of the triangle.

.....cm

(2)

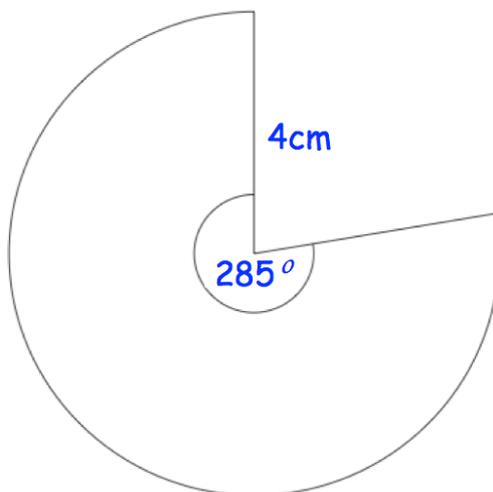
16. Make  $a$  the subject of  $14a + 6w = ac + 8w$

$a = \dots\dots\dots$

---

(3)

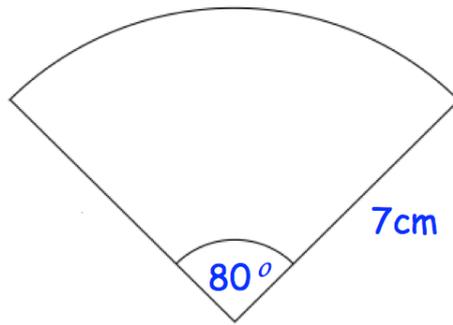
17.



Calculate the perimeter of the sector.

$\dots\dots\dots$  cm  
(3)

18. The diagram shows a sector of a circle with radius 7cm.

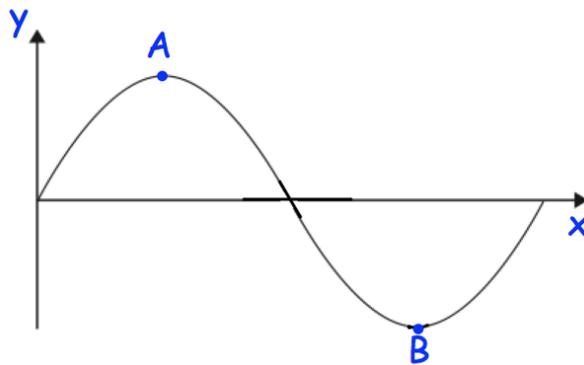


Work out the area of the sector.  
Give your answer correct to 2 decimal places.

.....cm<sup>2</sup>

**(3)**

19. Shown is part of the curve  $y = \sin x$



(a) Write down the coordinates of the point A.

(..... , .....)  
**(1)**

(b) Write down the coordinates of the point B.

(..... , .....)

(1)

20. Write  $x^2 + 12x - 1$  in the form  $(x + a)^2 + b$ , where  $a$  and  $b$  are constants.

.....

(3)

21. Rebecca has 9 cards, each with a number on it.



She picks three cards at random, without replacement.  
Rebecca multiplies the three numbers to get a score.

Calculate the probability that the score is an even number

.....

(4)

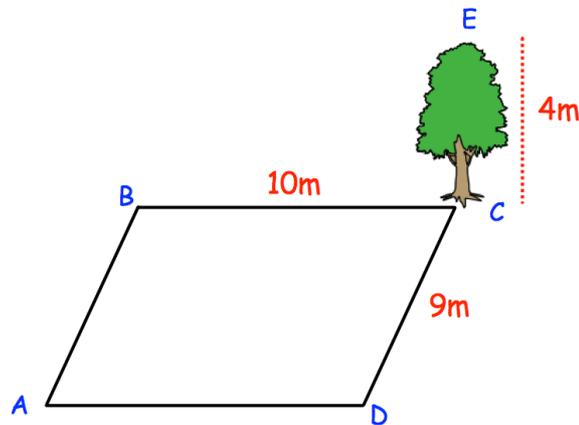
22. A car drives 150 miles in three hours.  
Calculate the speed of the car in kilometres per hour.

.....km/h

---

(2)

- 23.



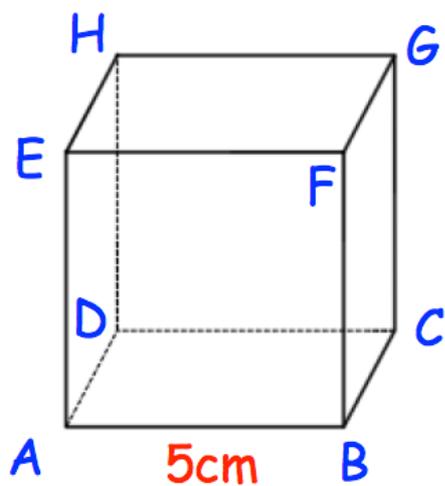
The field is 10 metres long and 9 metres wide.  
The tree is 4 metres tall.

Calculate the length AE

.....m

(3)

24. Shown is a cube with side length 5cm.



Calculate angle CAG.

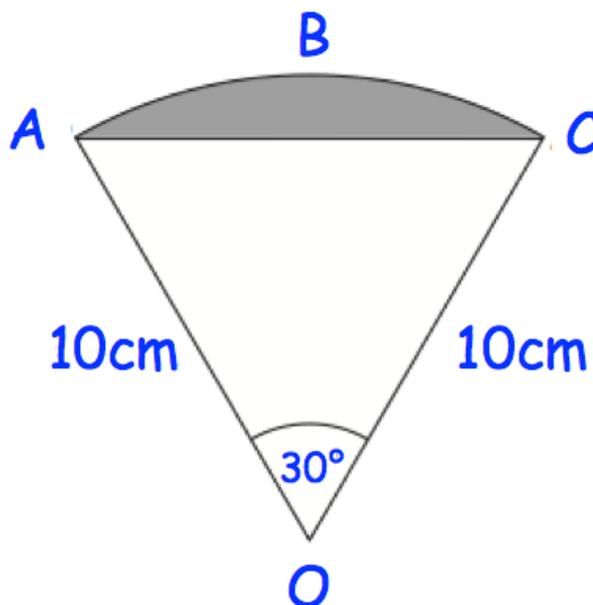
.....°  
(4)

25. The diagram shows a sector of a circle with centre O.  
The radius of the circle is 10cm.

ABC is an arc of the circle.

AC is a chord of the circle.

Angle AOC =  $30^\circ$



Calculate the area of the shaded segment.

.....cm<sup>2</sup>  
(5)

