

"BETWEEN PAPERS"

PRACTICE

SET 3 OF 4 (F&H)

SUMMER 2018

QUESTIONS

NOT A "BEST" GUESS PAPER.

**NEITHER IS IT A "PREDICTION" ... ONLY THE EXAMINERS KNOW WHAT IS GOING TO COME UP! FACT!
YOU ALSO NEED TO REMEMBER THAT JUST BECAUSE A TOPIC CAME UP ON PAPER 1 IT MAY STILL COME
UP ON PAPERS 2 OR 3 ...**

**WE KNOW HOW IMPORTANT IT IS TO PRACTICE, PRACTICE, PRACTICE SO WE'VE COLLATED A LOAD OF
QUESTIONS THAT WEREN'T EXAMINED IN THE PEARSON/EDExcel 9-1 GCSE MATHS PAPER 1 BUT WE
CANNOT GUARANTEE HOW A TOPIC WILL BE EXAMINED IN THE NEXT PAPERS ...**

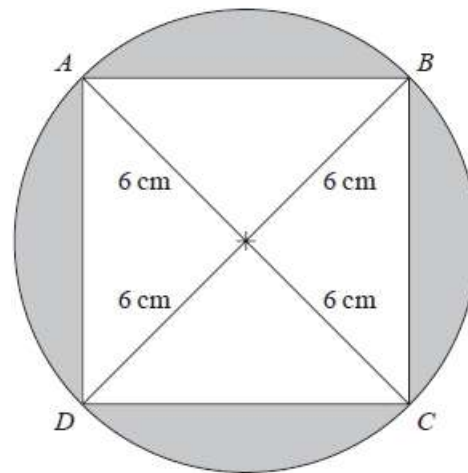
**ENJOY!
MEL & SEAGER**

Q1. The diagram shows a square $ABCD$ inside a circle.

The points A , B , C and D lie on the circle.

The radius of the circle is 6 cm.

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



is NOT
to scale

(4)

Q2. The value of a motor bike depreciates by 20% each year.

Brian says, "After two years, the value of the motor bike will have reduced by 40%".

He is **wrong**. Explain why.

(3)

Q3. Here is information about two investments.

Investment A Invest £2400 for 3 years and get £8 each month.

Investment B Invest £2400 for 3 years at a rate of 3.5% per year simple interest.

Which is the better investment? You must show your working.

(5)

Q4. Here is a lunch menu. There is a choice of 2 starters. There is also a choice of 3 main courses.

<i>Lunch Menu</i>			
<i>Starter</i>	<i>soup</i>	<i>pate</i>	
<i>Main course</i>	<i>lamb</i>	<i>beef</i>	<i>chicken</i>

Ethan is going to choose one starter and one main course.
Write down all the possible combinations Ethan can choose.

(2)

Q5.

Chao transports microwave ovens from China to the UK.

He puts each microwave oven in a box.

Each box is a cube of side 50cm.

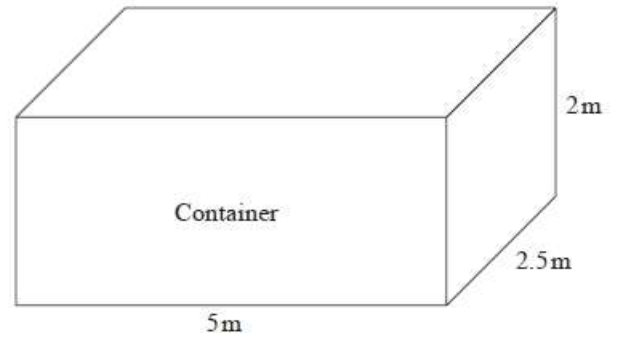
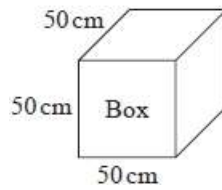
He then puts each box in a container.

Each container is a cuboid of size 5m by 2.5m by 2m.

Chao has 500 boxes.

He has 3 containers.

Will the 500 boxes fit into these 3 containers?



(4)

Q6. Here are the first five terms of an arithmetic sequence.

1 5 9 13 17

(a) Write down an expression, in terms of n , for the n th term of this sequence.

(2)

The n th term of a different number sequence is $3n^2 + 7$

(b) Find the 10th term of this sequence.

(2)

Q7. The stem and leaf diagram shows some information about the speeds of 25 cars.

2		9
3		1 3 5 6 7 8 8 9
4		2 3 3 4 5 6 8 8 9 9
5		1 2 4 5 6
6		0

Key:

2 | 9 means 29 miles per hour

(a) How many of the 25 cars had a speed of more than 50 miles per hour?

(1)

(b) Find the median speed.

(1)

(c) Work out the range of the speeds.

(2)

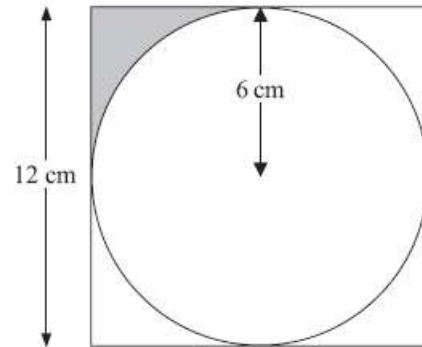
Q8. Write the following numbers in order of size. Start with the smallest number.

$$0.038 \times 10^2 \quad 3800 \times 10^{-4} \quad 380 \quad 0.38 \times 10^{-1}$$

(2)

Q9. The diagram shows a circle drawn inside a square.

The circle has a radius of 6 cm.
The square has a side of length 12 cm.
Work out the shaded area.
Your answer in terms of π .



The
Give

(3)

Q10. A gold bar has a mass of 12.5 kg.

The density of gold is 19.3 g/cm^3

Work out the volume of the gold bar. Give your answer correct to 3 significant figures.

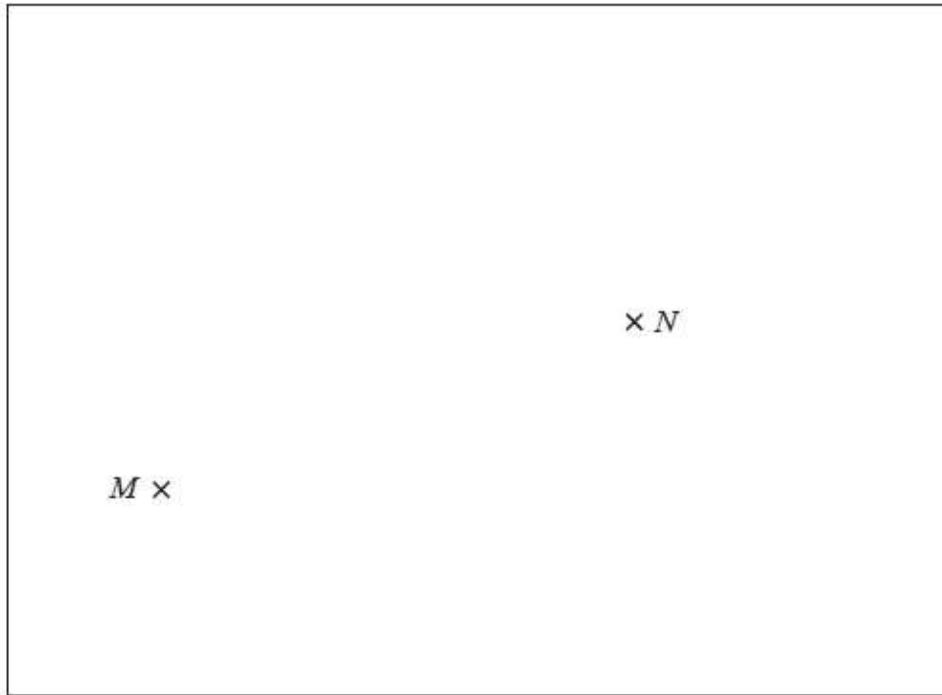
(3)

Q11. Here is a map. The map shows two towns Marlford (M) and Newborough (N).

A company is going to build a supermarket.

The supermarket will be more than 10 km from Marlford and less than 6 km from Newborough.

Find and shade the region on the map where the company can build the supermarket.



Scale: 1 cm represents 2 km.

Q12. Matt and Dan cycle around a cycle track.

(3)

Each lap Matt cycles takes him 50 seconds.

Each lap Dan cycles takes him 80 seconds.

Dan and Matt start cycling at the same time at the start line.

Work out how many laps they will each have cycled when they are next at the start line together.

(3)

Q13. The diagram shows a trundle wheel.

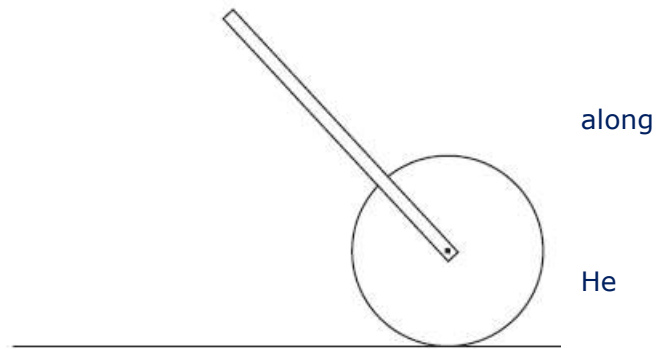
Trundle wheels are used to measure distances along the ground.

The radius of the trundle wheel is 20 cm.

Jim wants to work out the distance between two junctions on a road. He rolls the trundle wheel between the two junctions.

The trundle wheel rotates exactly 34 times.

Work out the distance between the two junctions. Give your answer in metres correct to the nearest metre.



(3)

Q14. (a) Express 180 as a product of its prime factors.

(3)

Martin thinks of two numbers.

He says,

"The Highest Common Factor (HCF) of my two numbers is 6
The Lowest Common Multiple (LCM) of my two numbers is a multiple of 15"

(b) Write down **two** possible numbers that Martin is thinking of.

(2)

Q15. (a) Write down the reciprocal of 5

(1)

(b) Evaluate 3^{-2}

(1)

(c) Calculate $9 \times 10^4 \times 3 \times 10^3$

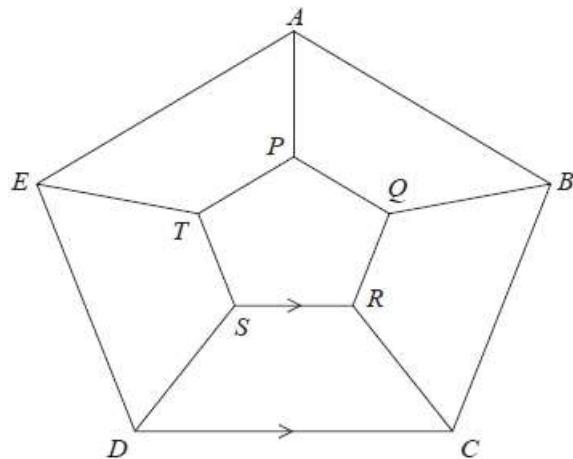
Give your answer in standard form.

(2)

Q16. $ABCDE$ and $PQRST$ are regular pentagons.

SR is parallel to DC
 $AP = BQ = CR = DS = ET$

Work out the size of angle SRC .
 You must show all your working.



(3)

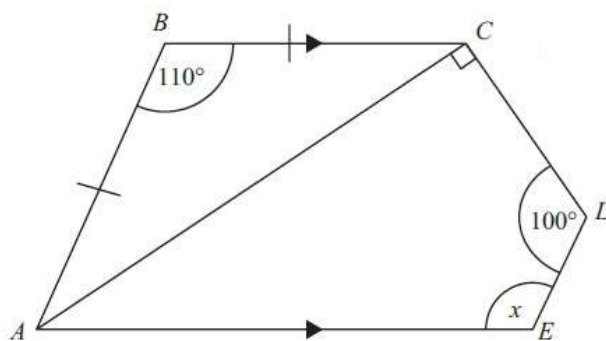
17.

ABC is an isosceles triangle.
 $AB = BC$.
 Angle $ABC = 110^\circ$.

$ACDE$ is a quadrilateral.
 Angle $CDE = 100^\circ$.
 Angle ACD is a right-angle.

AE is parallel to BC .

Work out the size of the angle marked x .
 Give reasons for each stage of your working.



(4)