

# **"BETWEEN PAPERS"**

## **PRACTICE**

### **SET 1 OF 4 (F&H)**

## **SUMMER 2018**

# **QUESTIONS**

**NOT A "BEST" GUESS PAPER.**

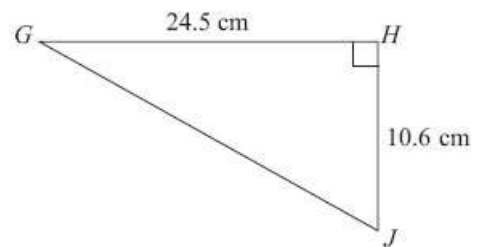
**NEITHER IS IT A "PREDICTION" ... ONLY THE EXAMINERS KNOW WHAT IS GOING TO COME UP! FACT!  
YOU ALSO NEED TO REMEMBER THAT JUST BECAUSE A TOPIC CAME UP ON PAPER 1 IT MAY STILL COME  
UP ON PAPERS 2 OR 3 ...**

**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.**  $G H J$  is a right-angled triangle.

Calculate the length of  $G J$ .  
Give your answer correct to one decimal place.



**(3)**

**Q2.** Alan works in a gym. One week he recorded the number of people who visited the gym each day.

For Monday to Friday, the mean number of people per day was 98  
For the whole week, the mean number of people per day was 114

On Saturday, 162 people visited the gym.

Work out the number of people who visited the gym on Sunday.

**(3)**

**Q3.** The normal price of a watch is £80 in two shops, Tymes and Sekonds.

Both shops have a sale.

In Tymes the normal price of the watch is reduced by £18

In Sekonds the normal price of the watch is reduced by 20%

Which shop is selling the watch for the cheaper price in the sale? You must show your working.

**(3)**

**Q4.** Liz is a vet. She writes down the type of each animal she treats one morning.

cat      rabbit      cat      dog      rabbit      cat  
hamster      dog      dog      cat      rabbit      dog  
dog      rabbit      dog      dog      cat      dog

(a) Complete the frequency table.

Type of animal	Tally	Frequency
cat		
hamster		
rabbit		
dog		

**(2)**

(b) Write down the mode.

(1)

**Q5.** Here are two schemes for investing £2500 for 3 years.

**Scheme A**

gives £5.35 interest each month.

**Scheme B**

gives 3% simple interest each year.

Which scheme gives the most total interest over the 3 year period?  
You must show all your working.

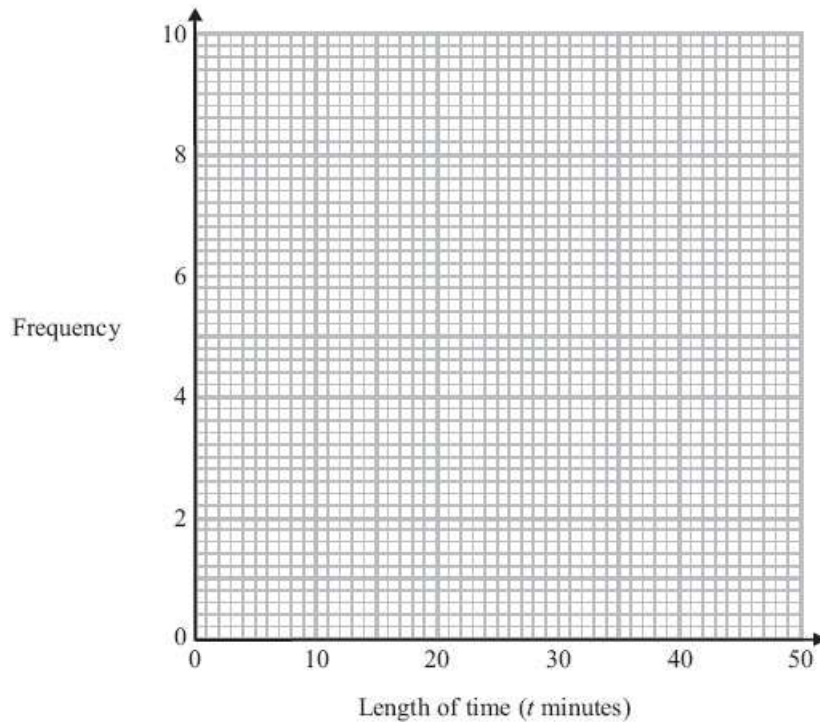
(4)

**Q6.** Helen went on 35 flights in a hot air balloon last year.

The table gives some information about the length of time,  $t$  minutes, of each flight.

Length of time ( $t$ minutes)	Frequency
$0 < t \leq 10$	6
$10 < t \leq 20$	9
$20 < t \leq 30$	8
$30 < t \leq 40$	7
$40 < t \leq 50$	5

On the grid below, draw a frequency polygon for this information.



(2)

**Q7.** The table shows the midday temperature on each day for ten days.

<b>Day</b>	1	2	3	4	5	6	7	8	9	10
<b>Temperature (°C)</b>	13	14	12	10	13	16	14	13	18	16

(a) Find the range of temperatures.

**(2)**

(b) Write down the mode.

**(1)**

(c) Work out the mean temperature.

**(2)**

**Q8.** A number,  $n$ , is rounded to 2 decimal places. The result is 4.76

Using inequalities, write down the error interval for  $n$ .

**(2)**

**Q9.** (a) Expand  $5(m + 2)$

**(1)**

(b) Factorise  $y^2 + 3y$

**(1)**

(c) Simplify  $a^5 \times a^4$

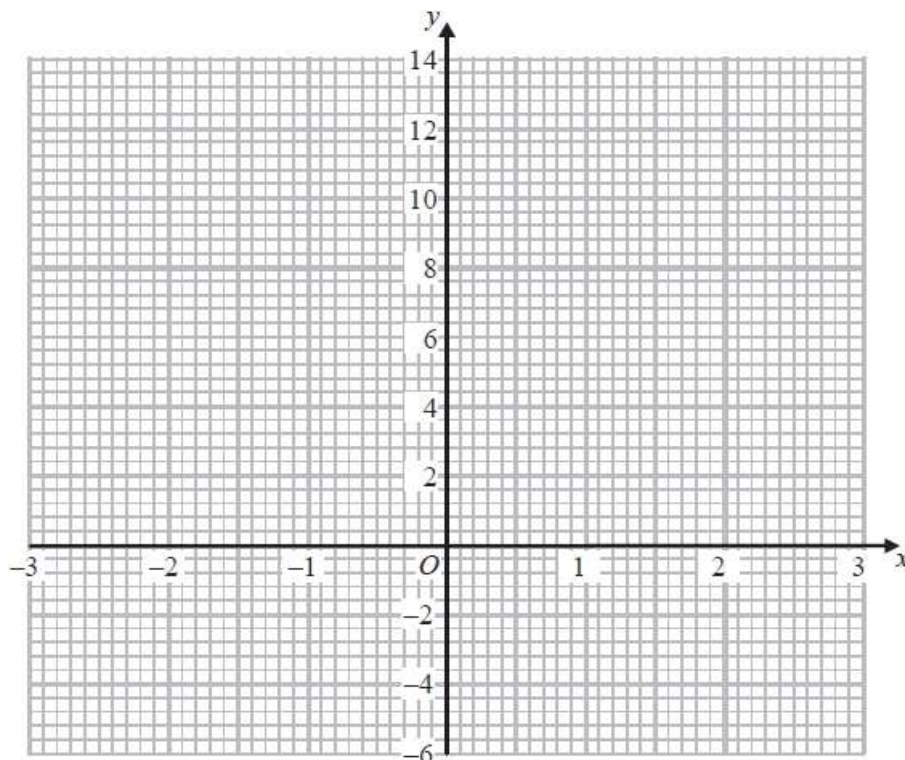
**(1)**

**Q10.** (a) Complete the table of values for  $y = x^3 - 6x + 4$

$x$	-3	-2	-1	0	1	2	3
$y$	-5		9			0	13

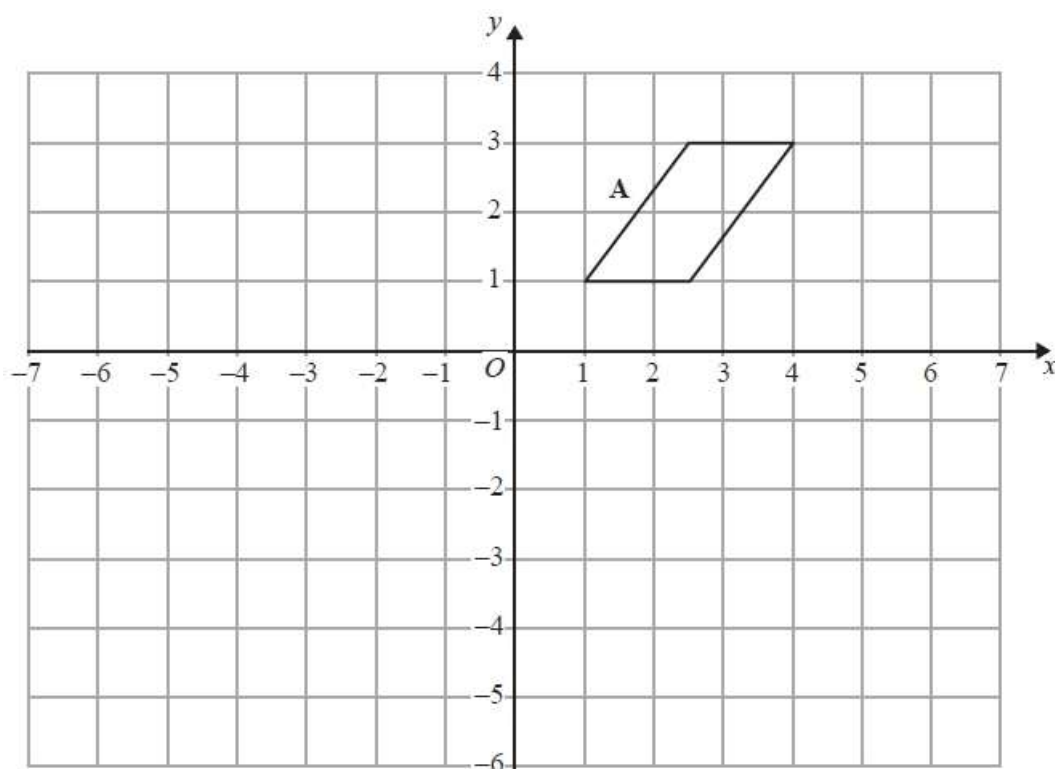
**(2)**

(b) On the grid, draw the graph of  $y = x^3 - 6x + 4$  for values of  $x$  from  $-3$  to  $3$

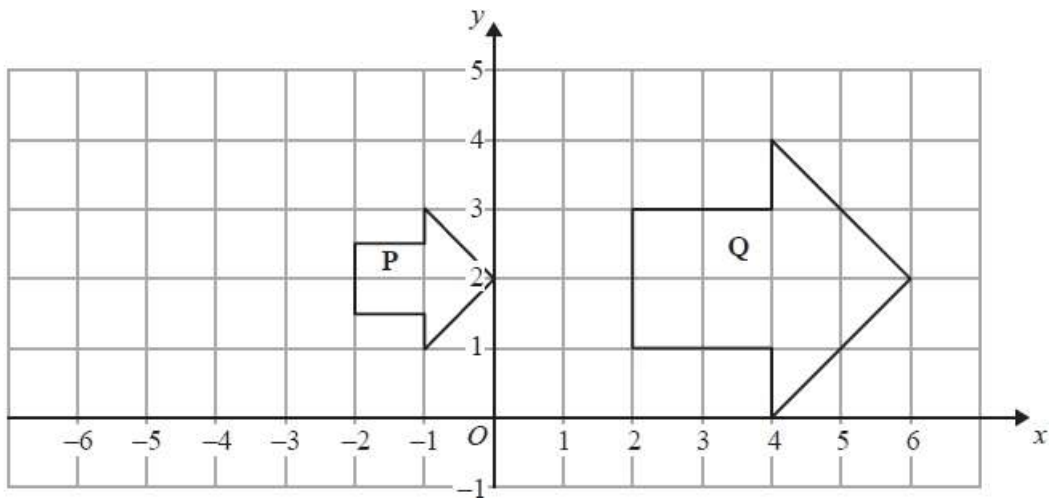


(2)

**Q11.** (a) Reflect shape **A** in the line  $x = -1$



(2)



(b) Describe fully the single transformation that maps shape **P** onto shape **Q**.

(3)

**Q12.** (a) Make  $t$  the subject of the formula

$$2(a + t) = 5t + 7$$

$t = \dots\dots\dots$  (3)

(b) Solve the simultaneous equations

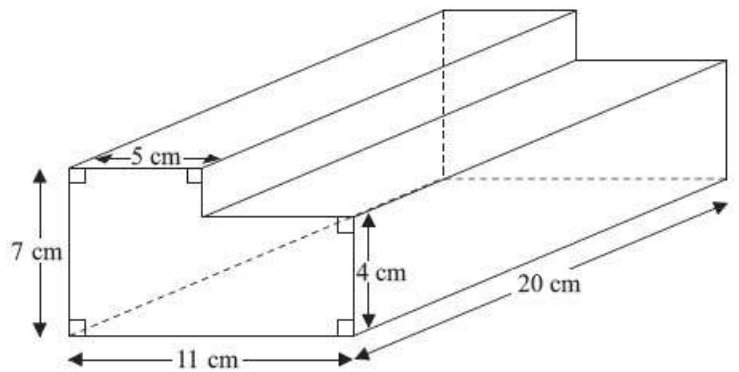
$$\begin{aligned} 3x - 4y &= 8 \\ 9x + 5y &= -1.5 \end{aligned}$$

$x = \dots\dots\dots$   
 $y = \dots\dots\dots$

(3)

**Q13.** Here is a solid prism.

Work out the volume of the prism.



$\dots\dots\dots \text{cm}^3$  (3)

**Q14.** There are only blue counters, yellow counters, green counters and red counters in a bag.

A counter is taken at random from the bag.

The table shows the probabilities of getting a blue counter or a yellow counter or a green counter.

<b>Colour</b>	blue	yellow	green	red
<b>Probability</b>	0.2	0.35	0.4	

(a) Work out the probability of getting a red counter.

**(1)**

(b) What is the least possible number of counters in the bag?

You must give a reason for your answer.

**(2)**

**Q15.** 66 people went on a day trip. Each person did only one activity on the trip.

Each person went skating or went to an art gallery or went bowling.

43 of the people are female.

4 of the 10 people who went skating are male.

20 of the people went to the art gallery.

10 males went bowling.

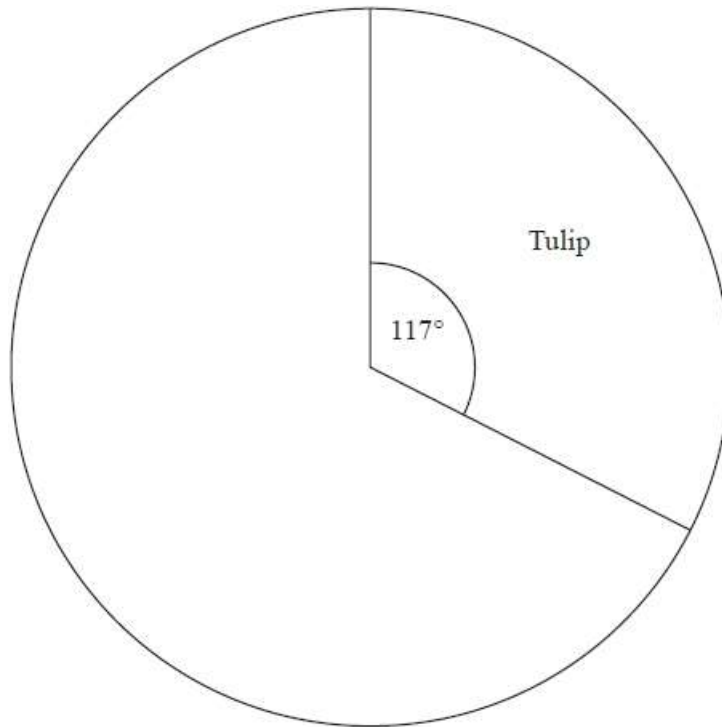
Work out the number of females who went to the art gallery.

**(4)**

**Q16.** Linda planted 400 flower bulbs. She planted daffodil bulbs, tulip bulbs and hyacinth bulbs.

The incomplete table and pie chart show some information about the bulbs.

Type of bulb	Number planted
Daffodil	180
Tulip	.....
Hyacinth	.....
Total	400



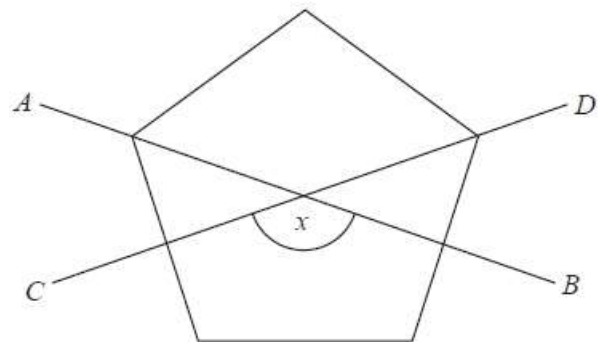
Complete the table and the pie chart.

(4)

**Q17.** The diagram shows a regular pentagon.

$AB$  and  $CD$  are two of the lines of symmetry of the pentagon.

Work out the size of the angle marked  $x$ .  
You must show all your working.



(4)