"BETWEEN PAPERS" PRACTICE
SET 2 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.

ABCD is a rectangle.
CDE is a straight line.

AB = 12 cm
Angle ACB = 60°
Angle EAC = 90°

Calculate the length of CE.
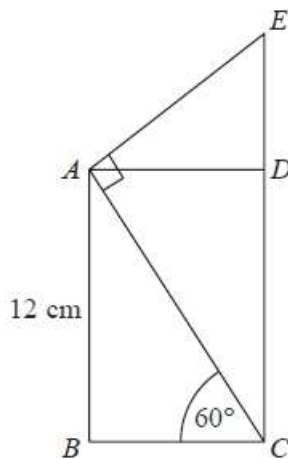You must show all your working.

Diagram NOT accurately drawn

12 cm

60°

(4)

Q2. The normal price of a television is reduced by 30% in a sale.

The sale price of the television is £350

Work out the normal price of the television.

(3)

Q3. Here is a list of 12 numbers.

20   45   15   12   18   32   25   40   20   15   22   24

(a) Work out the range.

(2)

(b) Find the median.

(2)

(c) Work out the mean.

(2)

Q4. DEF is a right-angled triangle.

DE = 86 mm

EF = 37 mm

Calculate the size of the angle marked y.
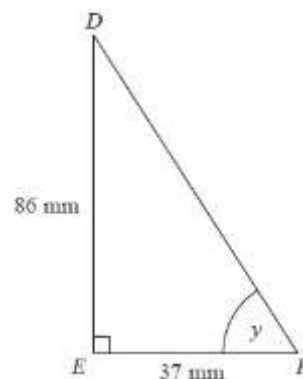
Give your answer correct to 1 decimal place.

Diagram NOT accurately drawn

86 mm

y

37 mm

Q5. The table gives information about the numbers of badges gained by the younger girls in a Guide group.

Number of badges	Frequency
0	2
1	8
2	4
3	3
4	5
5	3

(a) Write down the mode.

(1)

(b) Work out the mean number of badges gained by these girls.

(3)

There are 15 older girls in the Guide group.
The mean number of badges gained by these 15 older girls is 4.4

(c) Work out the mean number of badges gained by all the girls in the Guide group.

(3)

Q6. Alice is a lorry driver. She recorded the distance she drove on each of 40 trips.

The table gives information about these distances.

Distance (d miles)	Frequency
$400 < d \leqslant 450$	9
$450 < d \leqslant 500$	15
$500 < d \leqslant 550$	12
$550 < d \leqslant 600$	4

Work out an estimate for the mean distance.

(4)

Q7. Tina went on a cycling holiday.

For the first 5 days, Tina cycled a mean distance of 55 kilometres per day.

On the sixth day, Tina cycled 50 kilometres.

Andy says: "for all 6 days, the mean distance that Tina cycled per day was 52.5 kilometres".

Is Andy correct?
You must show your working.

(4)

Q8.   The value of a car depreciates by 25% each year.

At the end of 2013 the value of the car was £4800

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

(3)

Q9. Here are two different ways to invest £2500

Investment A	Investment B
Invest £2500 for 3 years and get £5 interest each month.	Invest £2500 for 3 years at 2.5% simple interest each year.

Which investment gives the most interest?

(4)

Q10. (a) Expand   3(x + 2)

(2)

   (b) Factorise completely   12 x^3y − 18 xy^2

(2)

   (c) Expand and simplify   (2x − 3)(x + 4)

(2)

(d) Simplify $5x^4y^3 \times 2x^3y^2$
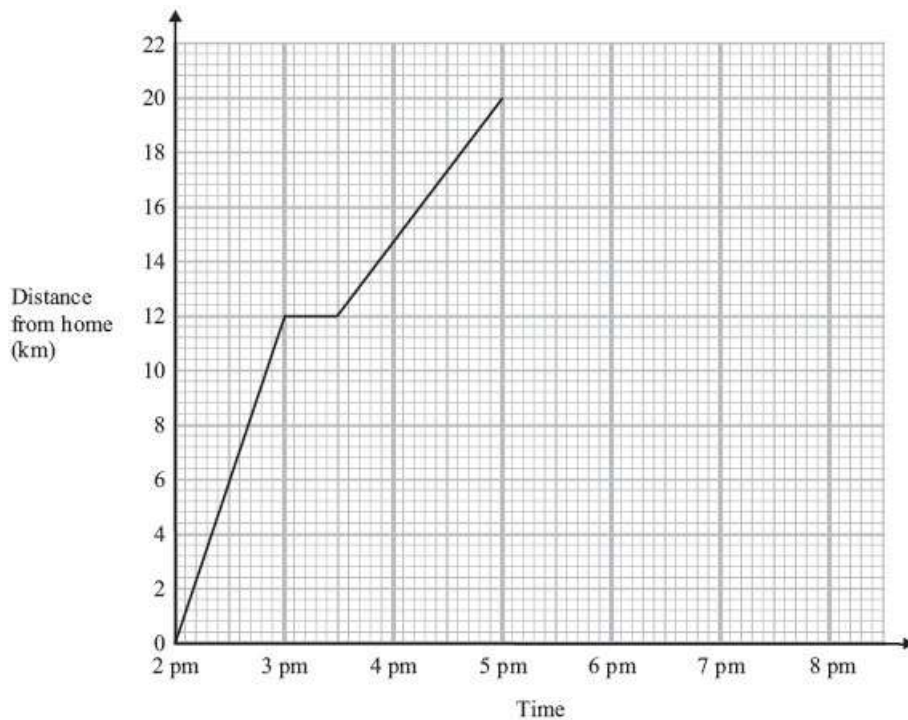
(2)

Q11. A number, n, is rounded to 2 decimal places. The result is 4.76

Using inequalities, write down the error interval for n.

(2)

Q12. Simon went for a cycle ride. He left home at 2 pm. The travel graph represents part of Simon's cycle ride.

At 3 pm Simon stopped for a rest.
(a) How many minutes did he rest?

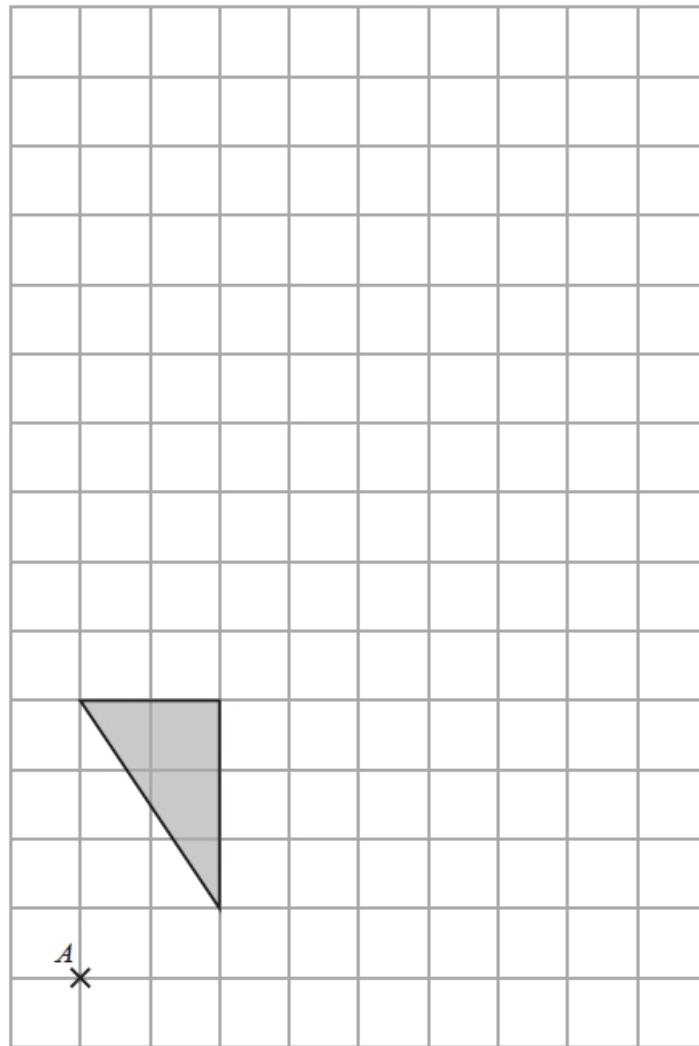**(1)**

(b) How far was Simon from home at 5 pm?
  .

(1)

At 5 pm Simon stopped for 30 minutes. Then he cycled home at a steady speed.
It took him 1 hour 30 minutes to get home.

(c) Complete the travel graph.

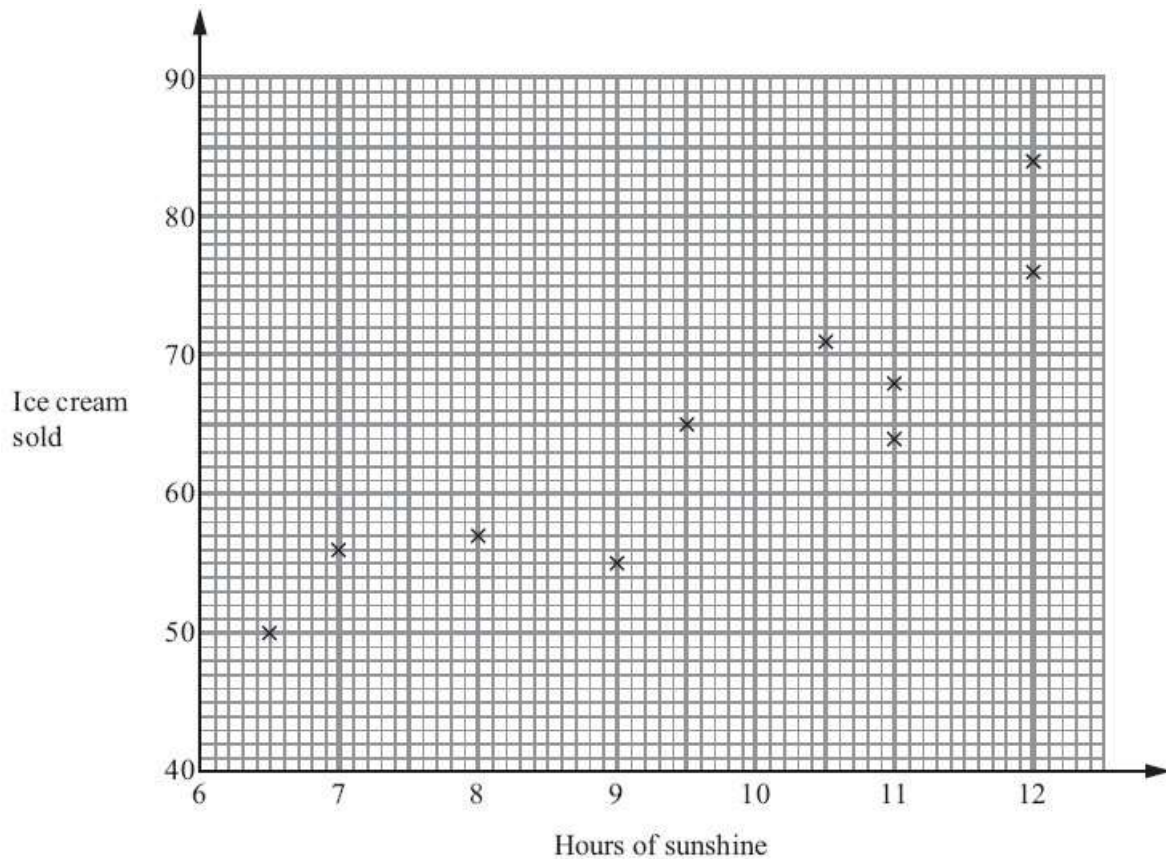**(2)**

Q13. A shaded shape is shown on the grid.

On the grid, enlarge the shape by a scale factor of 2, centre *A*.

(2)

Q14. A beach cafe sells ice creams. Each day the manager records the number of hours of sunshine and the number of ice creams sold.

The scatter graph shows this information.

On another day there were 11.5 hours of sunshine and 73 ice creams sold.

(a) Show this information on the scatter graph.

(1)

(b) Describe the relationship between the number of hours of sunshine and the number of ice creams sold.

(1)

One day had 10 hours of sunshine.

(c) Estimate how many ice creams were sold.

(2)

Q15. Make x the subject of $4x - 3 = 2(x + y)$

(Total for Question is 6 marks)

Q16. Isobel plays a game against Eric.

Isobel is twice as likely as Eric to win the game.
The probability that the game is drawn is 0.1

(a) Work out the probability that Eric wins the game.

(2)

Isobel and Eric play the game three times.

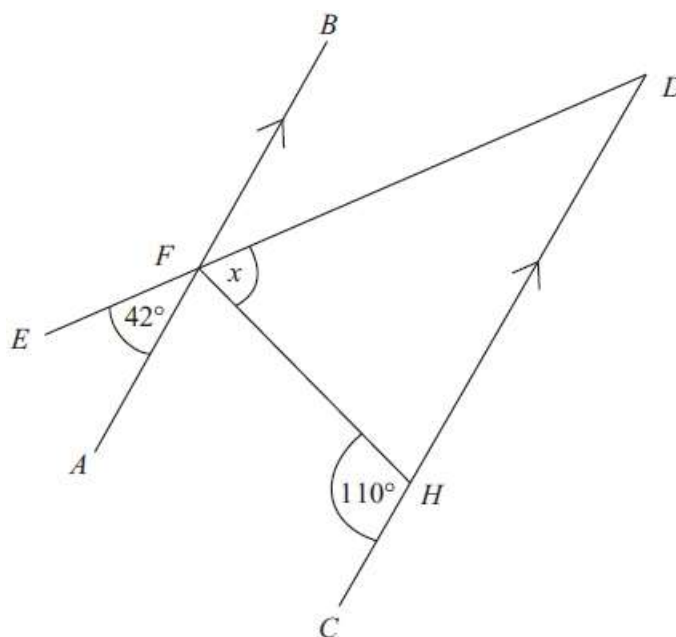(b) Work out the probability that all three games are drawn.

(2)

(c) Work out the probability that Eric wins at least one of the three games.

(3)

Q17. *AFB* and *CHD* are parallel lines.

EFD is a straight line.

Work out the size of the angle marked x.

(3)

Q18. The density of apple juice is 1.05 grams per cm^3.

The density of fruit syrup is 1.4 grams per cm^3.

The density of carbonated water is 0.99 grams per cm^3.

25 cm^3 of apple juice are mixed with 15 cm^3 of fruit syrup and
280 cm^3 of carbonated water to make a drink with a volume of 320 cm^3.

Work out the density of the drink. Give your answer correct to 2 decimal places.

Q19. On an activity day students play one sport. They play football or hockey or tennis.

120 students are on the activity day.

30 of the students are boys.

12 of the boys and 26 of the girls play hockey.

45 of the students play football.
35 of the 45 students who play football are girls.

Work out the number of girls who play tennis.

(4)