ADA PINPOINT PACKS

0_to_51_Percent_Pinpoint_AI_Pack

Made for Grade1to2

AO1,2_and_3

ALL_Strands

Calc_Only

Created by A.D.A:

Pinpoints Automatic Differention Algorithmn

Designed and Programmed by

Tom Quilter, Anne Mcateer + Jon Hargreaves ... All maths teachers.

Question 1 (AO1): 90% of students got this right

3. The table shows the names of five of Janette's friends.

Boys	Girls
Dodi James William	Anna Michelle

Janette is going to play a team game.
She chooses one of the boys and one of the girls to be in her team.

Write down all the possible combinations Janette can choose.

....

....

....

(Total 2 marks)

Question 2 (AO1): 88% of students got this right

5.   Here is a list of numbers.

        2   **4**   **5**   **6**   **7**   **8**

From the list of numbers write down

(i) an odd number

(ii) a square number

(iii) a multiple of 3

(iv) a factor of 10

Question 3 (AO1): 85% of students got this right

5. The table shows midday temperatures in four cities on one day in winter.

City	Midday temperature (°C)
Paris	2
Cardiff	−5
London	−3
Edinburgh	−1

(*a*) Which city had the lowest midday temperature?

....

(1)

By midnight, the temperature in London had fallen by 5°C.

(*b*) Work out the midnight temperature in London.

.... °C

(2)

(Total 3 marks)

_____

Question 4 (AO1): 82% of students got this right

1 $\dfrac{3}{5}$ of the people at a tennis club are women.

The rest of the people are men.

What fraction of the people are men?

Question 5 (AO1): 81% of students got this right

1   Work out 2.5^3

....

(Total for Question 1 is 1 mark)

Question 6 (AO2): 80% of students got this right

5 A shop sells pens at different prices.
The cheapest pens in the shop cost 27p each.

Lottie buys 18 pens from the shop.
She pays with a £10 note.

(*a*) If Lottie buys 18 of the cheapest pens, how much change should Lottie get?

Instead of buying the cheapest pens, Lottie buys 18 of the more expensive pens.
She still pays with a £10 note.

(*b*) How does this affect the amount of change she should get?

Question 7 (AO1): 78% of students got this right

9.   (*b*) Simplify $4e + 6f + 3e - 2f$

....
                                                    (2)

Question 8 (AO1): 76% of students got this right

1.   5 pencils cost £1.85

Work out the cost of 9 of these pencils

£...

(Total 2 mark)

_____

Question 9 (AO1): 74% of students got this right

1   Write 35 835 correct to the nearest 1000

....

(Total for Question 1 is 1 mark)

Question 10 (AO1): 73% of students got this right

3   Add −4 and −2

Circle your answer.   **[1 mark]**

−6   −2   2   6

Question 11 (AO3): 71% of students got this right

7.

	Cafe Price List
tea	65p
coffee	79p
hot chocolate	84p

Dylan and some friends went to the cafe.

Dylan bought himself a cup of tea.
He bought each of his friends a cup of coffee.

He paid with a £10 note.
He got £4.61 change.

How many friends were with Dylan at the cafe?

....

(Total for Question 7 is 4 marks)

_____

Question 12 (AO1): 69% of students got this right

13   Judith and Simon are organising different parties at a hotel.

This graph can be used to find the cost, in pounds (£), for different numbers of people.
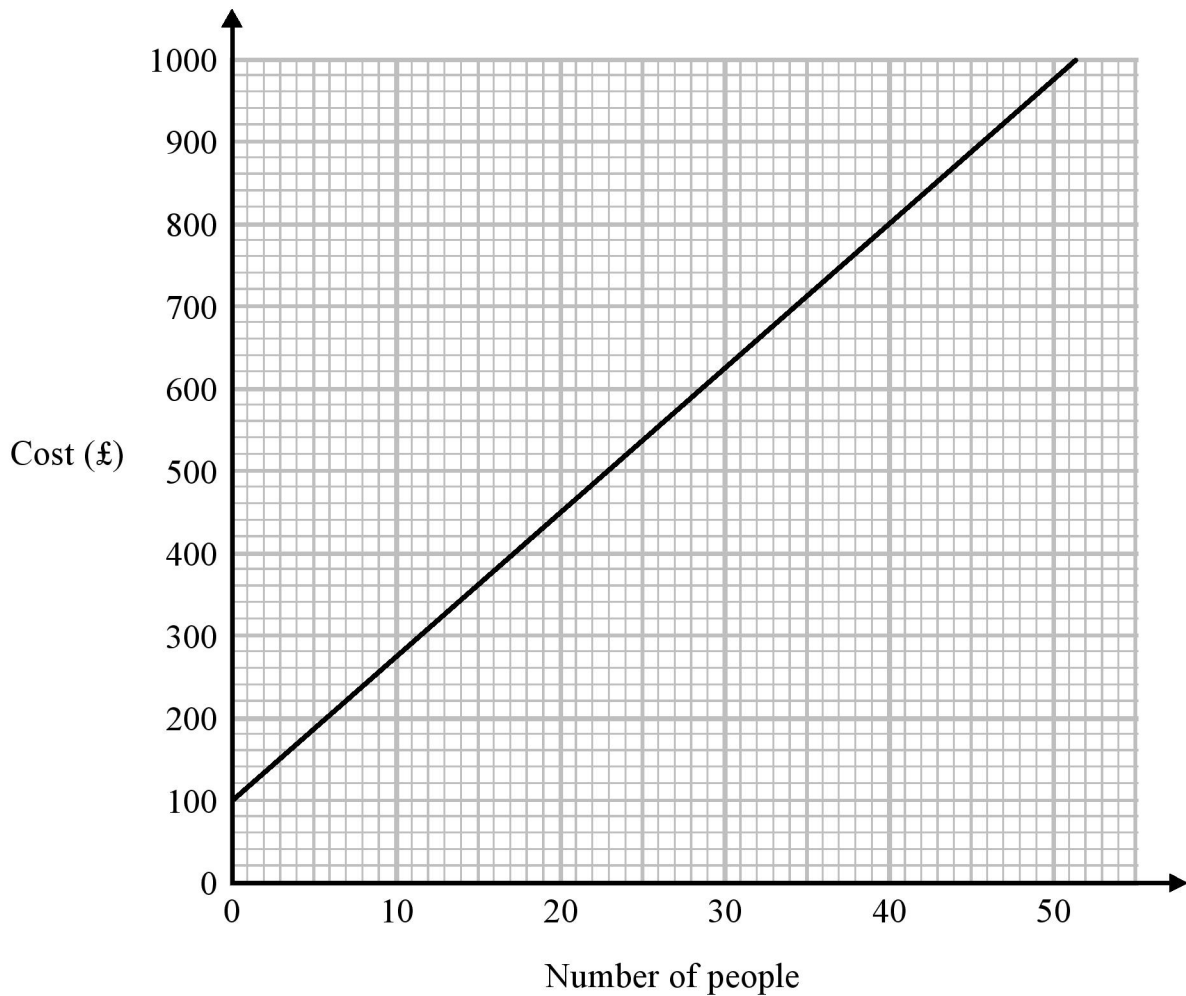
Judith has £700 to spend on a party.

(*a*) Find the greatest number of people she can have at her party.

Question 13 (AO1): 67% of students got this right

10. A map has a scale of 1 cm to 25 km.

The distance between the cities of Edinburgh and Bristol is 500 km.

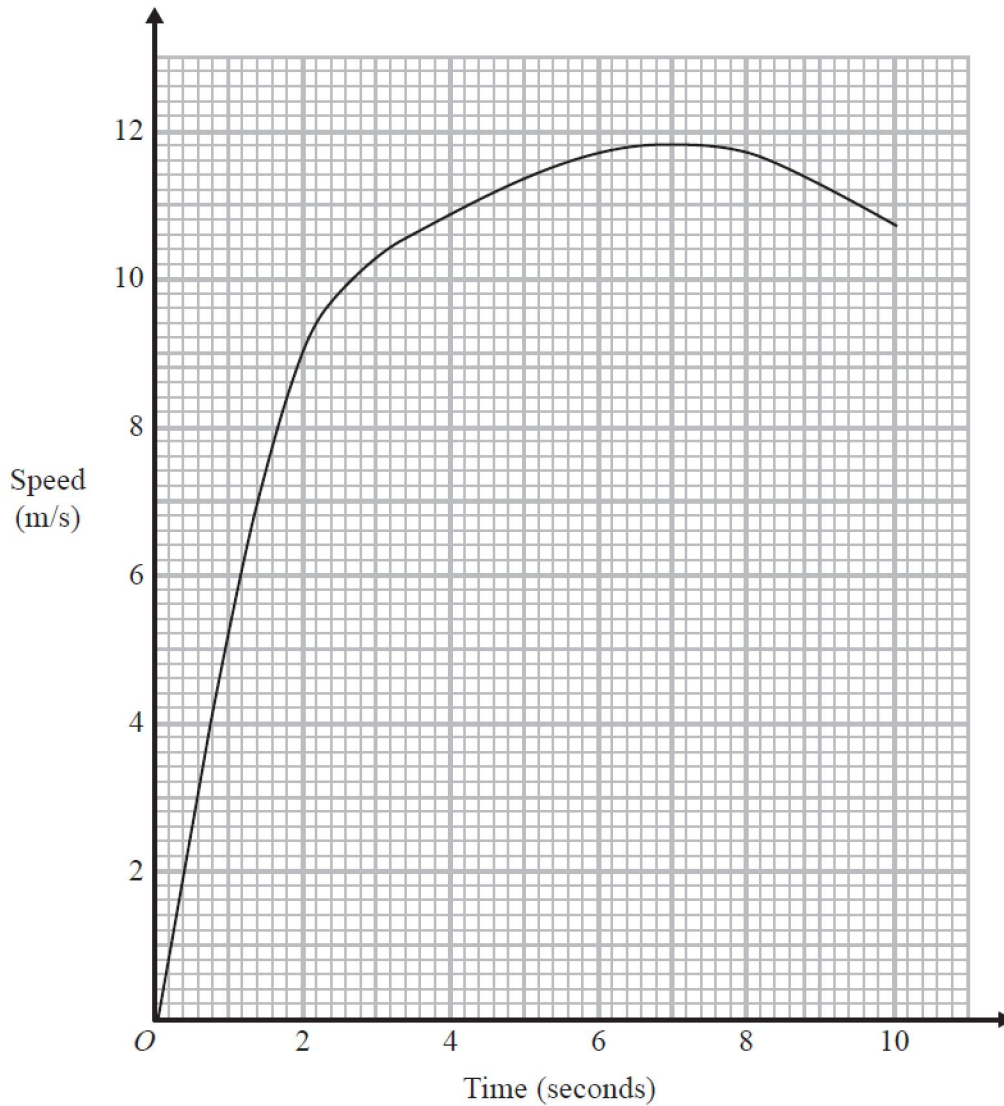What is the distance on the map between these two cities?

.... cm

(Total for Question 10 is 2 marks)

_____

Question 14 (AO1): 66% of students got this right

8. Usain runs in a race.
The graph shows his speed, in metres per second (m/s), during the first 10 seconds of the race.

(*a*) Write down Usain's speed at 2 seconds.

.... m/s
(1)

(*b*) Write down Usain's greatest speed.

.... m/s
(1)

(*c*) Write down the time at which Usain's speed was 7 m/s.

.... seconds
(1)

(Total 3 marks)

Question 15 (AO1): 65% of students got this right

8   Here is a list of numbers.

<div align="center">21   22   23   24   25   26   27   28   29</div>

(*a*) From the numbers in the list, write down a square number.

(1)

(*b*) From the numbers in the list, write down a number that is a multiple of **both** 4 and 6.

(1)

(*c*) Write down all the prime numbers in the list.

(1)

(Total for Question 8 is 3 marks)
_____

Question 16 (AO1): 64% of students got this right

11   The first three terms of a number pattern are   1   2   4

Hester says the first five terms of this number pattern are   1   2   4   8   16

(*a*) Write down the rule Hester could have used to get the 4th and 5th terms.

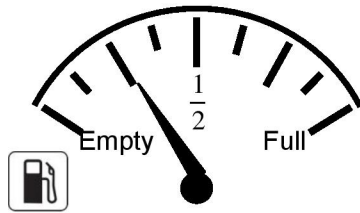(*b*) Write down the 6th term of Hester's number pattern.

Jack uses a different rule.

He says the first six terms of the number pattern are   1   2   4   7   11   16

(*c*) Write down the 7th and 8th terms of Jack's number pattern.

Question 17 (AO1): 62% of students got this right

5. A petrol tank holds 48 litres of petrol when it is full.

The scale shows information about how much petrol there is in the petrol tank.

Work out the number of litres of petrol in the petrol tank.

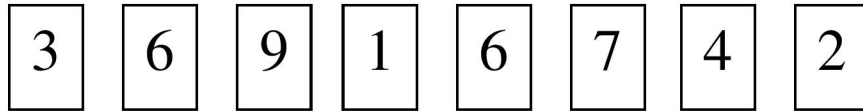# Question 18 (AO1): 61% of students got this right

5   Here is part of a train timetable from Lostock to Preston.

Lostock	07 46	08 16		08 46	08 57
Horwich	07 50	08 20	08 39	08 50	09 01
Blackrod	07 53			08 53	
Adlington	07 57	08 25		08 57	
Chorley	08 02	08 30	08 47	09 02	09 09
Buckshaw	08 06	08 33		09 05	
Leyland	08 15	08 40		09 12	
Preston	08 20	08 49	08 59	09 17	09 22

(*a*) How long should the 07 46 train take to go from Lostock to Buckshaw?

Question 19 (AO1): 60% of students got this right

7a   Matthew has eight cards.
There is a number on each card.

| 3 | 6 | 9 | 1 | 6 | 7 | 4 | 2 |

(a) Work out the range of the numbers on the cards.

....

(1)

Question 20 (AO1): 58% of students got this right

15   (*a*)   Work out $\dfrac{4.36 + 2.8^3}{6.8 - 5.42}$

Give your answer as a decimal.
Write down all the digits on your calculator display.

(*b*) Give your answer to part (*a*) correct to 1 decimal place.

Question 21 (AO1): 57% of students got this right

11   Polly has a full 5 kg sack of rice.
      She pours the rice from this sack into bags.
      She fills as many bags as possible.

      Each full bag contains 350 g of rice.

      (*a*) How many bags did Polly fill from this sack of rice?

Question 22 (AO1): 56% of students got this right

10. A school has 840 pupils and 40 teachers.

    (*a*) Find the ratio of the number of pupils to the number of teachers.
         Give your ratio in the form *n* : 1

.... : 1

(2)

Question 23 (AO1): 54% of students got this right

4   Here are four fractions.

$$\frac{2}{5} \qquad \frac{11}{30} \qquad \frac{1}{2} \qquad \frac{7}{15}$$

Write these fractions in order of size.
Start with the smallest fraction.

....

(Total for Question 4 is 2 marks)

_____

Question 24 (AO2): 53% of students got this right

11 In a shop, the normal price of a coat is £65.
The shop has a sale.

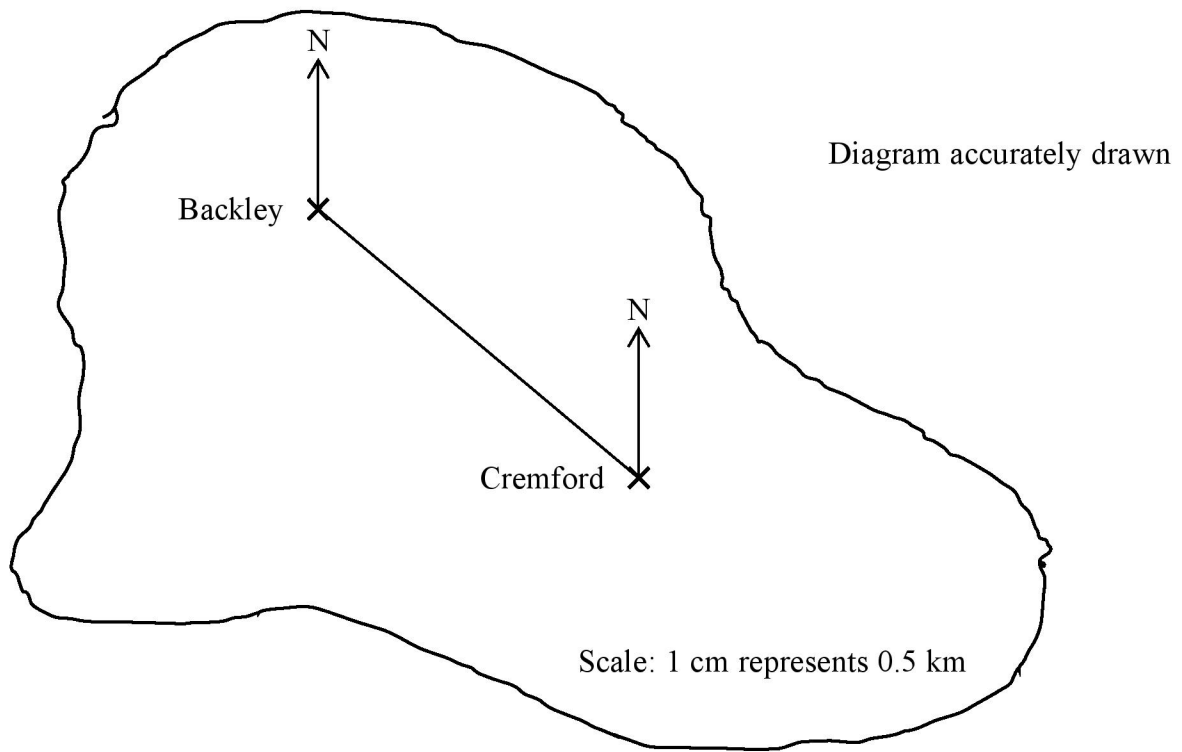In week 1 of the sale, the price of the coat is reduced by 20%
In week 2 of the sale, the price of the coat is reduced by a further £10.

Maria has £40.

Does Maria have enough money to buy the coat in week 2 of the sale?
You must show how you get your answer.

Question 25 (AO1): 53% of students got this right

9   Here is a map of an island.

Diagram accurately drawn

Scale: 1 cm represents 0.5 km

A straight road joins the two villages, Backley and Cremford.

(*a*) Work out the real distance between the two villages.

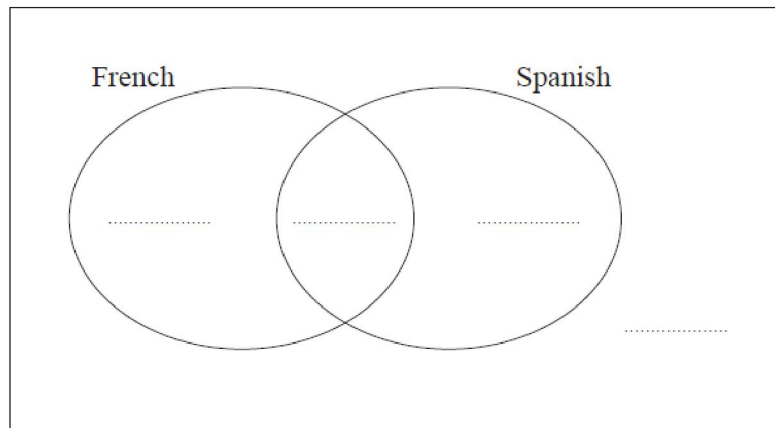# Question 26 (AO1): 51% of students got this right

23a There are 60 students at a college.

25 students study both French and Spanish.
16 students study French but not Spanish.
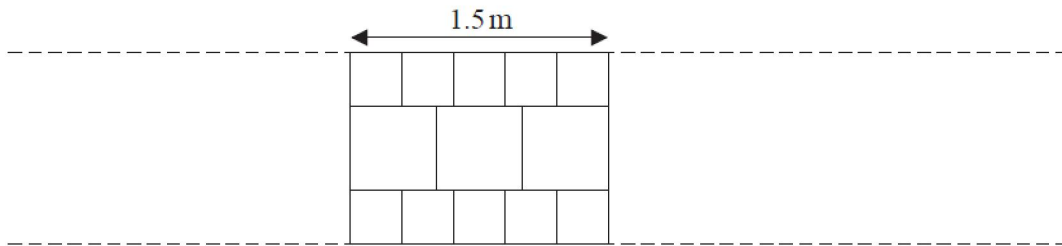A total of 39 students study Spanish.

(a) Complete the Venn diagram for this information.

(3)

Question 27 (AO3): 50% of students got this right

15   Jake is going to make a path from small paving stones and large paving stones.
      The diagram shows Jake's design for the path.
      The rest of the path is made using the same pattern of paving stones.

1.5 m

      A small paving stone costs £2.50
      A large paving stone costs £4.00

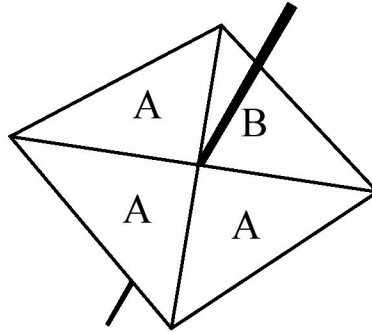   Jake needs to buy enough paving stones to make a path that is 9 metres long.

      (a) How much will Jake have to pay for the paving stones he needs?

                                        ....

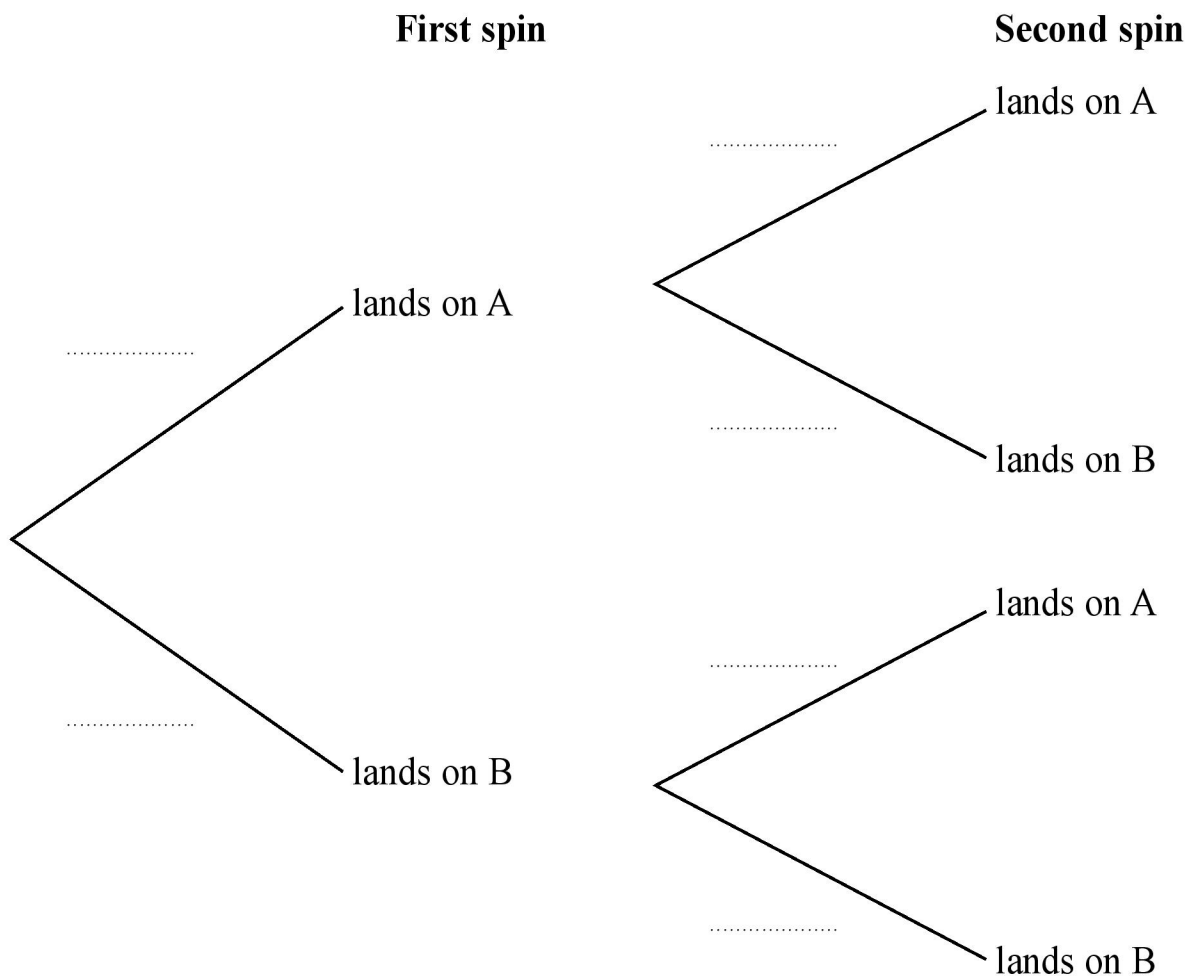   **(4)**

Question 28 (AO1): 49% of students got this right

22   The diagram shows a fair 4-sided spinner.

Hasmeet is going to spin the spinner twice.

(*a*) Complete the probability tree diagram.

First spin   **Second spin**

lands on A

lands on A

lands on B

lands on A

lands on B

lands on B

Answers to Qn 1 (AO1): 90% of students got this right

Question	Working	Answer	Mark	Notes
3.	(D, A) (J, A) (W, A) (D, M) (J, M) (W, M)	list of 6 combinations	2	B2 for six correct and distinct pairs (B1 for at least 3 pairs and no incorrect pairs or all correct pairs with repeats)

Answers to Qn 2 (AO1): 88% of students got this right

Question		Working	Answer	Mark	Notes
5	(i)		5 or 7	4	B1 5 or 7
	(ii)		4		B1 cao
	(iii)		6		B1 cao
	(iv)		2 or 5		B1 2 or 5

Answers to Qn 3 (AO1): 85% of students got this right

5.	(a)		Cardiff	1	B1
	(b)		-8	2	M1 for $-3-5$ or $-3+-5$
					A1

Answers to Qn 4 (AO1): 82% of students got this right

Question	Working	Answer	Mark	Notes
1		$\dfrac{2}{5}$	B1	or equivalent fraction

Answers to Qn 5 (AO1): 81% of students got this right

1   Work out 2.5^3

$$2.5 \times 2.5 \times 2.5$$

$$= 15.625$$

Answers to Qn 6 (AO2): 80% of students got this right

Paper 1MA1: 2F			
Question	Working	Answer	Notes
5 a	$27 \times 18 = 486$	5.14	M1 for $1000 -$ "27×18" A1 cao
b		"less change"	C1 for "less change" oe

Answers to Qn 7 (AO1): 78% of students got this right

| | | | **9.** (b) | $7e + 4f$ | 2 | B2 (B1 for $7e$ or $4f$) | |

Answers to Qn 8 (AO1): 76% of students got this right

1.		$1.85 \div 5 \times 9 =$	3.33	2	M1 for $1.85 \div 5$ or 1.85×9 or 0.37 or 16.65 or 333 seen
					A1 cao
					NB Working can be in £ or p

Answers to Qn 9 (AO1): 74% of students got this right

1   Write 35 835 correct to the nearest 1000

36 000

Answers to Qn 10 (AO1): 73% of students got this right

3   Add −4 and −2

Circle your answer.

[1 mark]

−6   −2   2   6

Answers to Qn 11 (AO3): 71% of students got this right

Question	Working	Answer	Mark	Notes
7		6	P1	Process to start to find cost of coffees, e.g, 10 – 4.61 (=5.39) **or** 10 – 0.65 (=9.35)
			P1	Complete process to find cost of the coffees 10 – 4.61 – 0.65 (= 4.74)
			P1	Complete process to find number of friends ("4.74" ÷ 0.79) **or** ("474" ÷ 79)
			A1	cao

8

Answers to Qn 12 (AO1): 69% of students got this right

Question	Working	Answer	Mark	Notes
13 (a)		34	B1	cao

Answers to Qn 13 (AO1): 67% of students got this right

10		20	M1	M1 for 500 ÷ 25
			A1	cao

11

Answers to Qn 14 (AO1): 66% of students got this right

Question		Working	Answer	Mark	Notes
8.	(a)		9 to 9.1	1	B1
	(b)		11.8	1	B1
	(c)		1.4	1	B1

Answers to Qn 15 (AO1): 65% of students got this right

Question 8 (Total 3 marks)

Part	Working or answer an examiner might expect to see	Mark	Notes
(a)	25	B1	This mark is given for the correct answer only
(b)	24	B1	This mark is given for the correct answer only
(c)	23 and 29	B1	This mark is given for the correct answer only

Answers to Qn 16 (AO1): 64% of students got this right

Paper 1MA1: 2F			
Question	Working	Answer	Notes
11 (a)		rule stated	C1 for rule stated, eg number doubles
(b)		32	B1 cao
(c)		22, 29	B1 cao

Answers to Qn 17 (AO1): 62% of students got this right

Question	Working	Answer	Mark	Notes
5		12	2	M1 for 48 ÷ 4 or $48 \times \dfrac{1}{4}$ oe A1 cao

Answers to Qn 18 (AO1): 61% of students got this right

Question	Working	Answer	Mark	Notes
5 (a)		20	B1	cao

Answers to Qn 19 (AO1): 60% of students got this right

7a   Matthew has eight cards.
There is a number on each card.

3	6	9	1	6	7	4	2
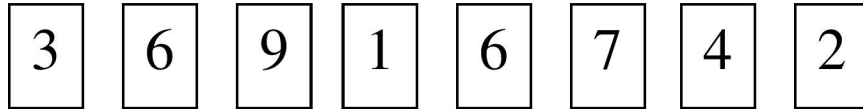
(a) Work out the range of the numbers on the cards.

9 – 1 = **8**

Answers to Qn 20 (AO1): 58% of students got this right

Question	Working	Answer	Mark	Notes
15 (b)		19.1	B1	ft from part (a) providing to at least 2 decimal places

Answers to Qn 21 (AO1): 57% of students got this right

Question	Working	Answer	Mark	Notes
11　(a)		14	B1	for use of 1000 g = 1 kg
			P1	for process to find number of bags, e.g. $5000 \div 350$ (= 14.2….)
			A1	cao

Answers to Qn 22 (AO1): 56% of students got this right

Question		Working	Answer	Mark	Notes
10.	(a)	840 : 40 oe or 840 ÷ 40 oe or 1 : 21	21	2	M1 A1 (Accept 21 : 1)

Answers to Qn 23 (AO1): 54% of students got this right

Question 4 (Total 2 marks)

Part	Working or answer an examiner might expect to see	Mark	Notes
	$\dfrac{2}{5} = \dfrac{12}{30}$, $\dfrac{11}{30}$, $\dfrac{1}{2} = \dfrac{15}{30}$, $\dfrac{7}{15} = \dfrac{14}{30}$ or $\dfrac{2}{5} = 0.4$, $\dfrac{11}{30} = 0.3666\ldots$, $\dfrac{1}{2} = 0.5$, $\dfrac{7}{15} = 0.4666\ldots$	M1	This mark is given for converting fractions to a common form; for example, fractions with a denominator of 30 or decimals
	$\dfrac{11}{30}$, $\dfrac{2}{5}$, $\dfrac{7}{15}$, $\dfrac{1}{2}$	A1	This mark is given for writing the fractions in the correct order, starting from the smallest

Answers to Qn 24 (AO2): 53% of students got this right

Paper 1MA1: 2F			
Question	**Working**	**Answer**	**Notes**
11		for 'no' with supporting evidence	P1 for correct process to find price in Week 1, P1 eg. 65×0.8 (= 52) for process to find C1 the price in week 2, eg. "52" – 10 (= 42) for 'no' with supporting evidence

Answers to Qn 25 (AO1): 53% of students got this right

Part	Working or answer an examiner might expect to see	Mark	Notes
9 (a)	5.5 cm	1	This mark is given for accurately measuring the distance between Backley and Cremford (within the range 5.3cm to 5.7 cm)
	2.75	1	The mark is given for a correct answer in the range 2.65 to 2.85

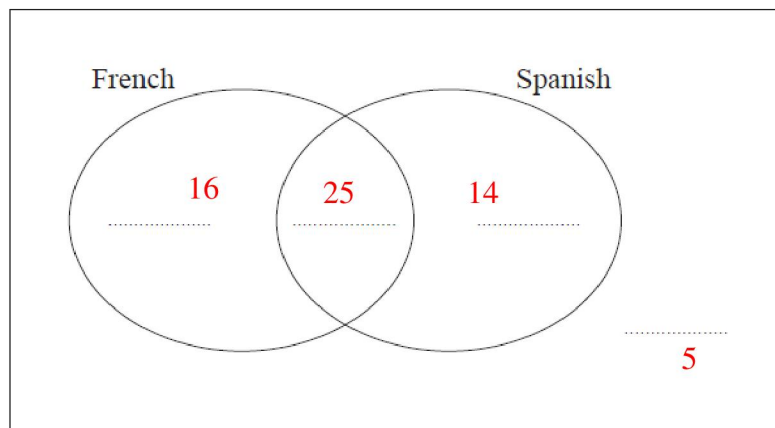Answers to Qn 26 (AO1): 51% of students got this right

23a There are 60 students at a college.

25 students study both French and Spanish.
16 students study French but not Spanish.
A total of 39 students study Spanish.

(a) Complete the Venn diagram for this information.

French   Spanish

16   25   14

5

.

Answers to Qn 27 (AO3): 50% of students got this right

15 Jake is going to make a path from small paving stones and large paving stones.
The diagram shows Jake's design for the path.
The rest of the path is made using the same pattern of paving stones.
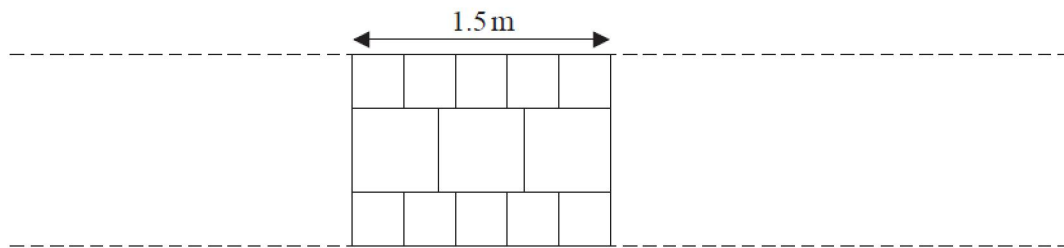
A small paving stone costs £2.50
A large paving stone costs £4.00

Jake needs to buy enough paving stones to make a path that is 9 metres long.

(a) How much will Jake have to pay for the paving stones he needs?

$9 \div 1.5 = 6$

$6 \times 10 = 60$ (small paving stones)

$60 \times £2.50 = £150$

$6 \times 3 = 18$ (large paving stones)

$18 \times £4.00 = £72$

$£150 + £72 = £222$

Answers to Qn 28 (AO1): 49% of students got this right

Question	Working	Answer	Mark	Notes
22 (a)		$\dfrac{3}{4}, \dfrac{1}{4}$	B1	for correct probabilities for A or for B or for first spin
		$\dfrac{3}{4}, \dfrac{1}{4}, \dfrac{3}{4}, \dfrac{1}{4}$	B1	all correct