

PINPOINT LEARNING

PAPER THREE REVISION PACKS

51_to_70_Percent_Pinpoint_AI_Pack

Time Allocation = 101mins , Max = 89 Marks

Calculated Grade Boundaries:

Grade	Marks
5-	13
5	26
5+	39
6-	51
6	64
6+	77
7-	89

Question 1 (AO2): 48% of students got this right (3 marks)

- 2 In London, 1 litre of petrol costs 108.9p
In New York, 1 US gallon of petrol costs \$2.83.

1 US gallon = 3.785 litres

£1 = \$1.46

In which city is petrol better value for money, London or New York?

You must show your working.

Question 2 (AO3): 48% of students got this right (4 marks)

15. A cinema sells adult tickets and child tickets.

The total cost of 3 adult tickets and 1 child ticket is £30.

The total cost of 1 adult ticket and 3 child tickets is £22.

Work out the cost of an adult ticket and the cost of a child ticket.

adult ticket £.....

child ticket £.....

(Total for Question 15 is 4 marks)

Question 3 (AO1): 48% of students got this right (3 marks)

- 3** 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.

Question 4 (AO2): 47% of students got this right (4 marks)

*14. Peter has £20 000 to invest in a savings account for 2 years.

He finds information about two savings accounts.

<p>Bonus Saver</p> <p>Compound interest</p> <p>4% for the first year then 1.5% each year</p>

<p>Fixed Rate</p> <p>Compound interest</p> <p>2.5% each year</p>

Peter wants to have as much money as possible in his savings account at the end of 2 years.

Which of these savings accounts should he choose?

Question 5 (AO3): 47% of students got this right (5 marks)

5. A town has three car parks.

South car park has x spaces.

North car park has 48 more spaces than South car park.

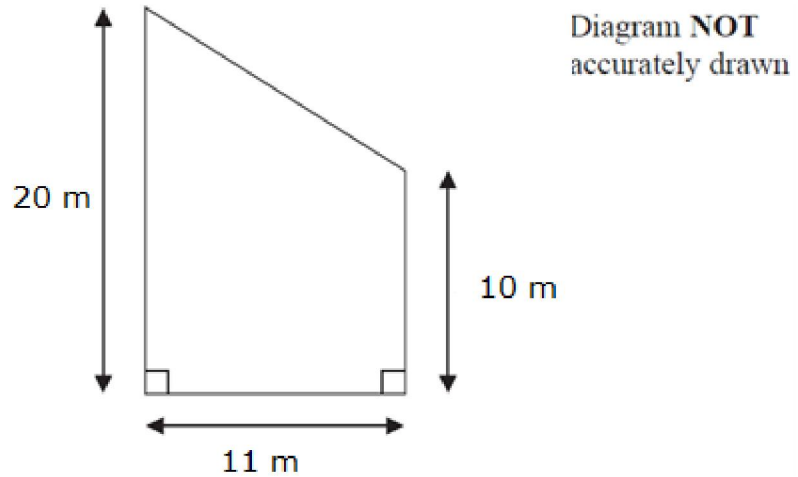
Central car park has four times as many spaces as South car park.

The total number of spaces in South car park and Central car park is more than twice the number of spaces in North car park.

Work out the least possible number of spaces in South car park.

Question 6 (AO2): 47% of students got this right (5 marks)

7 Given is part of a playground.



This part of the playground is shaped like a trapezium.
Around the edge of this part of the playground needs to be put up a fence.

There is 60 m of fence available.

Do they have enough fence available?
Show all steps in your calculations.

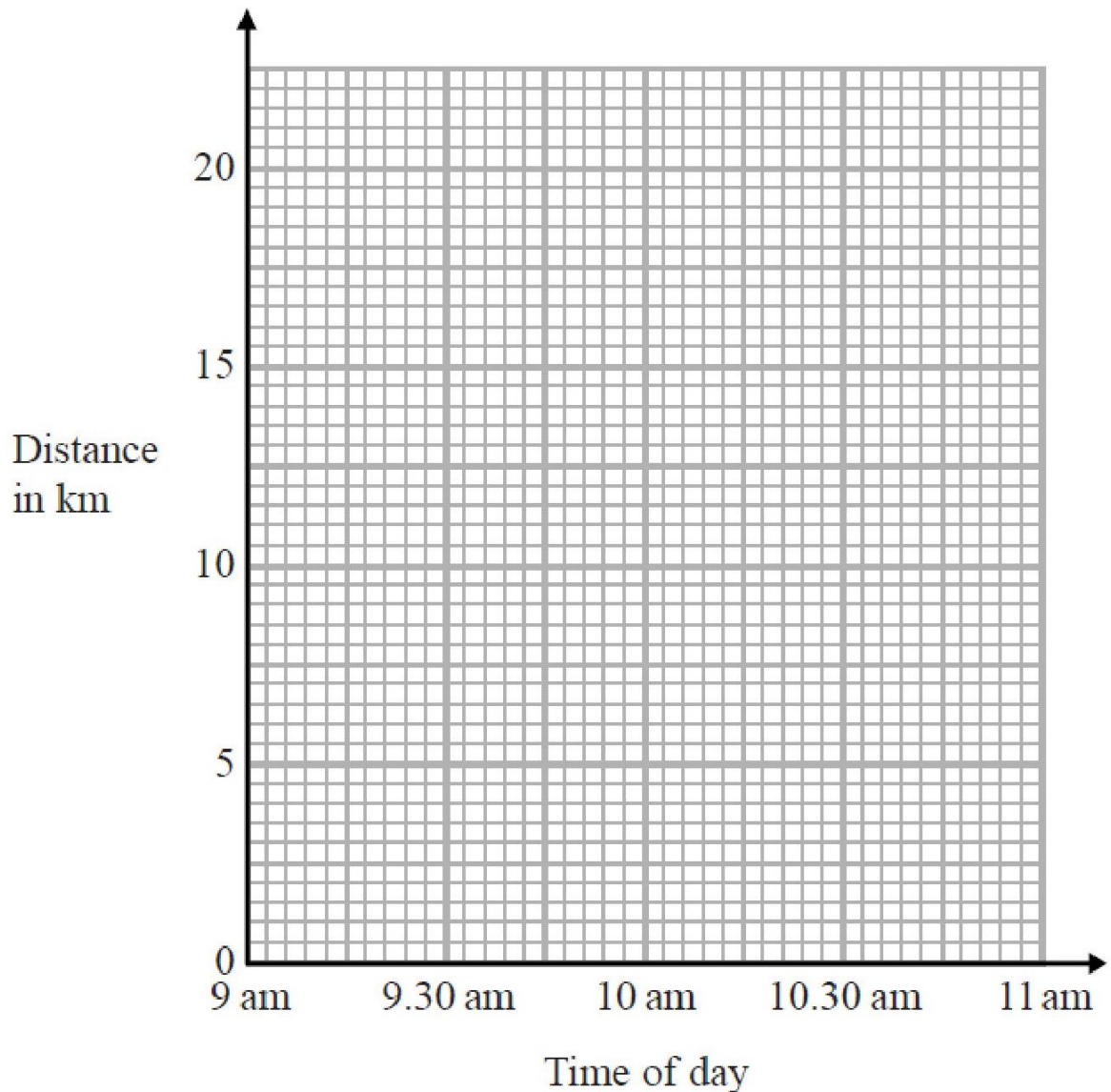
Question 7 (AO2): 47% of students got this right (5 marks)

5 At 9 am, Bradley began a journey on his bicycle.

From 9 am to 9.36 am, he cycled at an average speed of 15 km/h.

From 9.36 am to 10.45 am, he cycled a further 8 km.

(a) Draw a travel graph to show Bradley's journey.



From 10.45 am to 11 am, Bradley cycled at an average speed of 18 km/h.

(b) Work out the distance Bradley cycled from 10.45 am to 11 am.

Question 8 (AO2): 46% of students got this right (3 marks)

RETEST QUESTION

11 (b) Determine the value of 4^{-3}

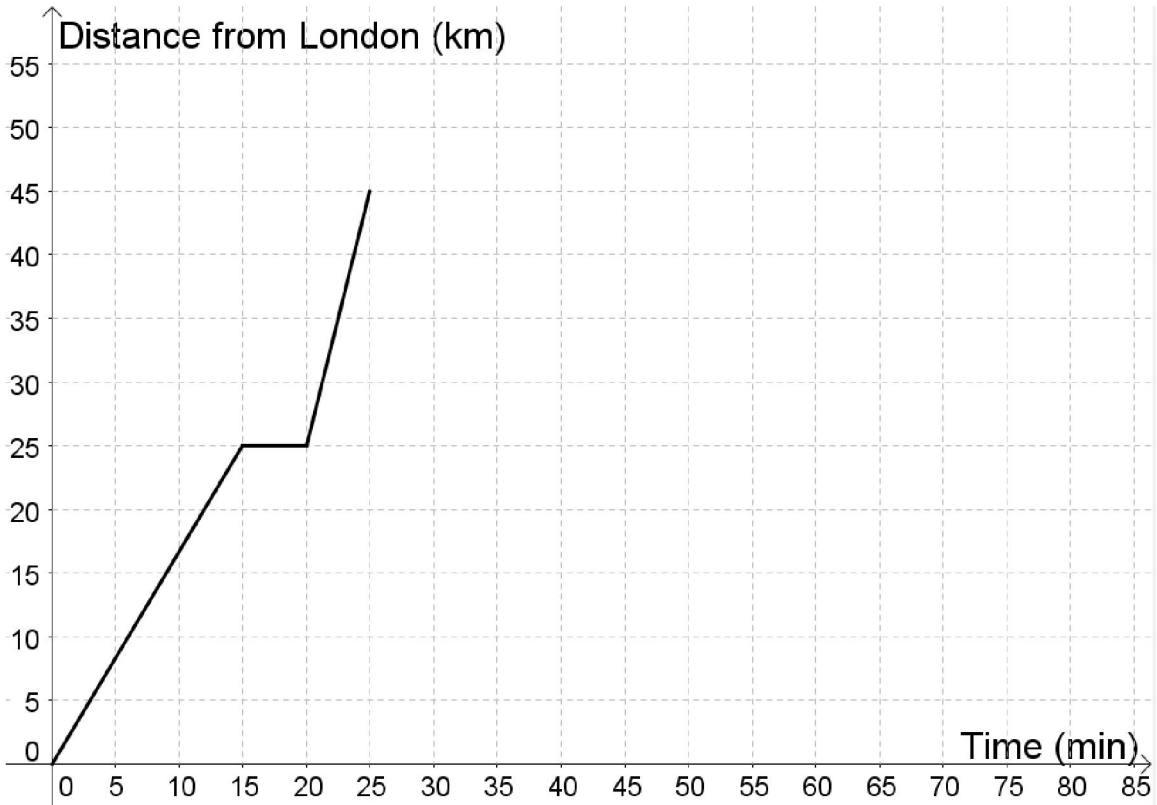
.....
(1)

(c) Simplify $(3x^3)^2$

.....
(2)

Question 9 (AO2): 45% of students got this right (5 marks)

- 10 A family travels from London to High Wycombe.
The graph below shows the information of this journey.



- (a) Determine the average speed, in kilometres per hour, for the first 15 minutes of the journey.

..... km/h
(2)

The family stops in High Wycombe for 10 minutes.
The family then returns to London at a constant speed of 60 km/h.

- (b) Add this information to the graph.

(3)

(Total 5 marks)

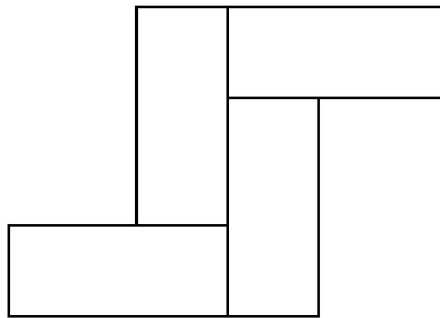
Question 10 (AO2): 44% of students got this right (5 marks)

6 Here is a rectangle.



The length of the rectangle is 7 cm longer than the width of the rectangle.

4 of these rectangles are used to make this 8-sided shape.

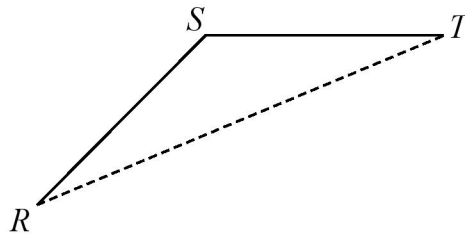


The perimeter of the 8-sided shape is 70 cm.

Work out the area of the 8-sided shape.

Question 11 (AO2): 42% of students got this right (3 marks)

12

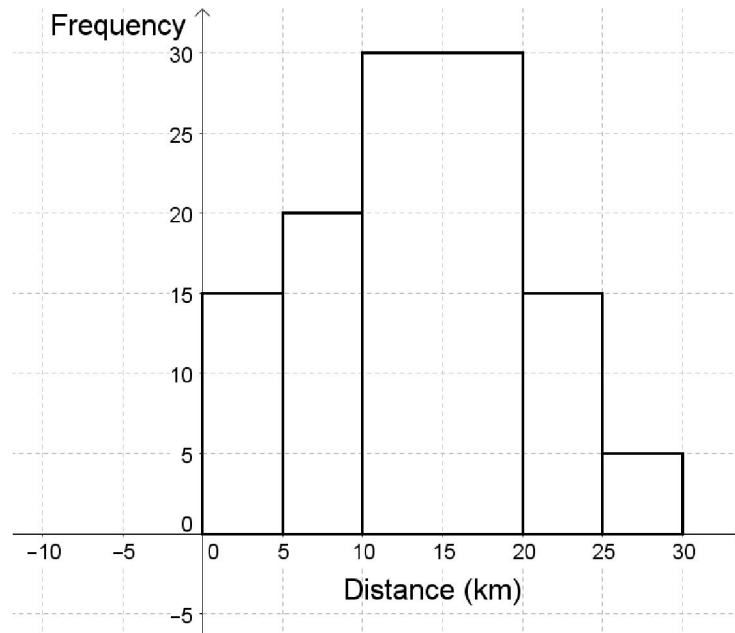


RS and ST are 2 sides of a regular 12-sided polygon.
 RT is a diagonal of the polygon.

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

Question 12 (AO1): 41% of students got this right (2 marks)

- 26 The histogram contains information about the distance a sample of people has to travel to work.



- (a) Complete the frequency table using the histogram.

Distance (x) in km	Frequency
$0 < x \leq 5$	30
$5 < x \leq 10$	
$10 < x \leq 20$	
$20 < x \leq 25$	
$25 < x \leq 30$	

(2)

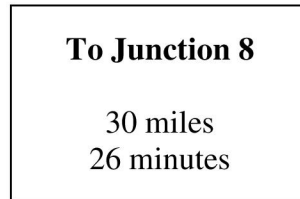
Question 13 (AO3): 40% of students got this right (3 marks)

*13. Axel and Lethna are driving along a motorway.

They see a road sign.

The road sign shows the distance to Junction 8

It also shows the average time drivers will take to get to Junction 8



The speed limit on the motorway is 70 mph.

Lethna says,

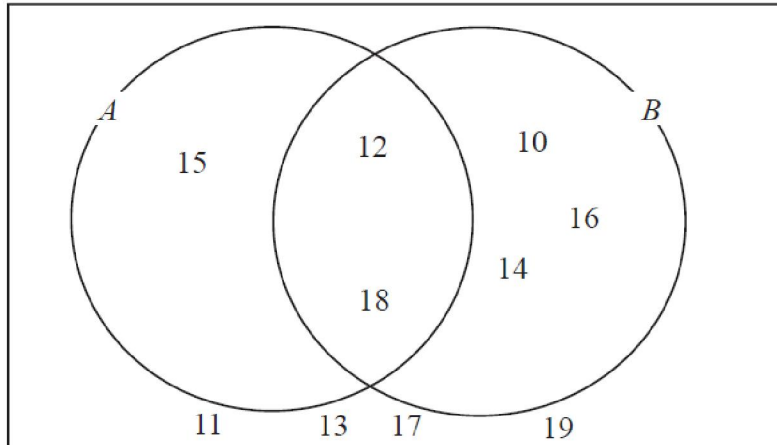
‘We will have to drive faster than the speed limit to go 30 miles in 26 minutes.’

Is Lethna right?

You must show how you got your answer.

Question 14 (AO1): 40% of students got this right (4 marks)

5 Here is a Venn diagram.



(a) Write down the numbers that are in set

(i) $A \cup B$

(ii) $A \cap B$

One of the numbers in the diagram is chosen at random.

(b) Find the probability that the number is in set A'

Question 15 (AO1): 38% of students got this right (5 marks)

14. The table gives information about the temperature, T °C, at noon in a town for 50 days.

Temperature (T °C)	Frequency
$8 < T \leq 12$	6
$12 < T \leq 16$	8
$16 < T \leq 20$	13
$20 < T \leq 24$	21
$24 < T \leq 28$	2

- (a) Write down the modal class interval.

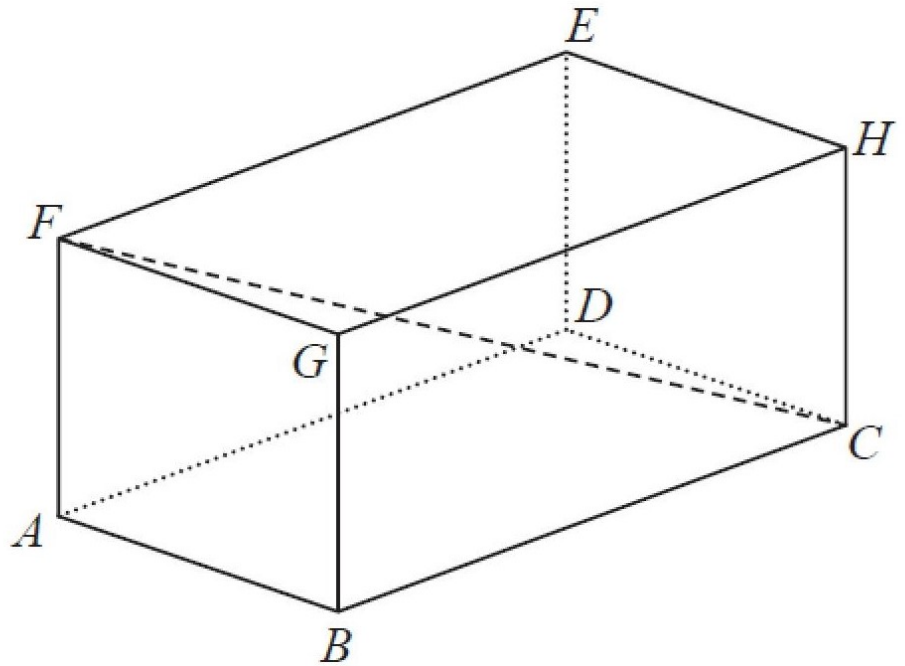
.....
(1)

- (b) Calculate an estimate for the mean temperature.

..... °C
(4)

Question 16 (AO3): 36% of students got this right (4 marks)

12 The diagram shows a cuboid $ABCDEFGH$.



$AB = 7$ cm, $AF = 5$ cm and $FC = 15$ cm.

Calculate the volume of the cuboid.

Give your answer correct to 3 significant figures.

Question 17 (AO3): 34% of students got this right (1 marks)

21. (a) Factorise $4x^2 - 9$

.....
(1)

Question 18 (AO3): 34% of students got this right (4 marks)

- 13.** Liquid A has a density of 0.7 g/cm^3 .
Liquid B has a density of 1.6 g/cm^3 .

140 g of liquid A and 128 g of liquid B are mixed to make liquid C.

Work out the density of liquid C.

Question 19 (AO3): 33% of students got this right (4 marks)

22.

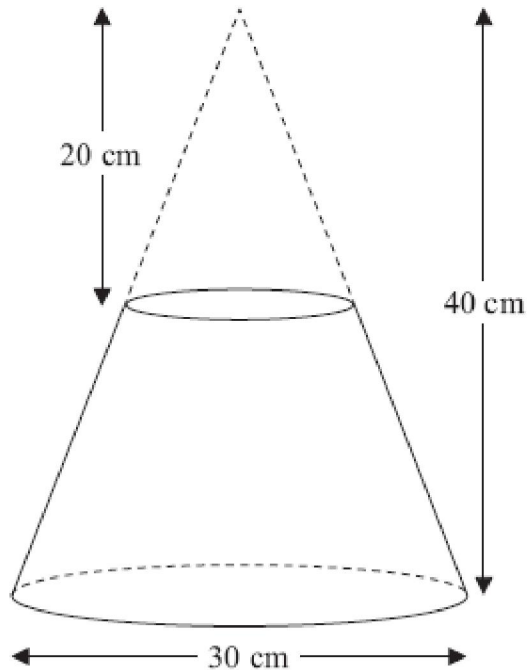


Diagram NOT
accurately drawn

A frustum is made by removing a small cone from a similar large cone.

The height of the small cone is 20 cm.

The height of the large cone is 40 cm.

The diameter of the base of the large cone is 30 cm.

Work out the volume of the frustum.

Give your answer correct to 3 significant figures.

Question 20 (AO1): 32% of students got this right (3 marks)

17 Here are the first 5 terms of a quadratic sequence.

1 3 7 13 21

Find an expression, in terms of n , for the n th term of this quadratic sequence.

Question 21 (AO3): 32% of students got this right (3 marks)

- 22 Madelyn uses the quadratic formula to solve a quadratic equation. She correctly substitutes values in the quadratic formula and obtains

$$x = \frac{-5 \pm \sqrt{25 - 24}}{6}$$

Determine the quadratic equation that Madelyn is solving.
Express your answer in the form $ax^2 + bx + c = 0$, where a , b and c are integers.

.....

(Total 3 marks)

Question 22 (AO2): 31% of students got this right (5 marks)

12. The average fuel consumption (c) of a car, in kilometres per litre, is given by the formula

$$c = \frac{d}{f}$$

where d is the distance travelled in kilometres and f is the fuel used in litres.

$d = 190$ correct to 3 significant figures.

$f = 25.7$ correct to 1 decimal place.

By considering bounds, work out the value of c to a suitable degree of accuracy.
You must show **all** of your working **and** give a reason for your final answer.

Question 23 (AO1): 31% of students got this right (3 marks)

- 13** The number of slugs in a garden t days from now is p_t where

$$p_0 = 100$$

$$p_{t+1} = 1.06p_t$$

Work out the number of slugs in the garden 3 days from now.

Question 24 (AO3): 30% of students got this right (3 marks)

- 9 Yesterday it took 5 cleaners $4\frac{1}{2}$ hours to clean all the rooms in a hotel.
There are only 3 cleaners to clean all the rooms in the hotel today.
Each cleaner is paid £8.20 for each hour or part of an hour they work.
How much will each cleaner be paid today?

Ext Qn1 (AO2): Only 25% of students got this right(3 marks)

20. In a sale normal prices are reduced by 20%.

A washing machine has a sale price of £464

By how much money is the normal price of the washing machine reduced?

£.....

Ext Qn2 (AO3): Only 25% of students got this right(3 marks)

14 Each year a furniture store records how long it takes the machines to create one chair.

In 2015 it took 14% less time than in 2014 to create a chair.

In 2015 the average time to create a chair was 75 minutes.

(a) Determine the average time to create a chair in 2014.

Round your answer to the nearest minute.

..... minutes
(3)

Ext Qn3 (AO1): Only 24% of students got this right(3 marks)

- 16 The petrol consumption of a car, in litres per 100 kilometres, is given by the formula

$$\text{Petrol consumption} = \frac{100 \times \text{Number of litres of petrol used}}{\text{Number of kilometres travelled}}$$

Nathan's car travelled 148 kilometres, correct to 3 significant figures.

The car used 11.8 litres of petrol, correct to 3 significant figures.

Nathan says,

“My car used less than 8 litres of petrol per 100 kilometres.”

Could Nathan be wrong?

You must show how you get your answer.

Answers to Qn 1 (AO2): 48% of students got this right

Part	Working an or answer examiner might expect to see	Mark	Notes
2	Cost of 1 litre of petrol in NY = $\$ \frac{2.83}{3.785} = \$0.7476\dots$	1	This mark is given for finding out the cost of a litre of petrol in New York in dollars
	Cost of 1 litre of petrol in NY = $\frac{0.7476\dots}{1.46} \text{ p} = 51.2\text{p}$	1	This mark is given for finding out the cost of a litre of petrol in New York in pence
	Petrol; is better value for money in New York ($0.51.2 < 108.9\text{p}$)	1	This mark is given for a correct conclusion supported by working

Answers to Qn 2 (AO3): 48% of students got this right

15 A cinema sells adult tickets and child tickets.

The total cost of 3 adult tickets and 1 child ticket is £30

The total cost of 1 adult ticket and 3 child tickets is £22

Work out the cost of an adult ticket and the cost of a child ticket.

$$\begin{array}{r} 3a + c = 30 \quad \times 3 \\ a + 3c = 22 \quad \times 1 \end{array}$$

$$9a + 3c = 90$$

$$\underline{-} a + \underline{-} 3c = \underline{-} 22$$

$$8a = 68$$

$$a = 8.5 \quad (\pounds 8.50)$$

$$8.5 + 3c = 22$$

$$3c = 13.5$$

$$c = 4.5 \quad (\pounds 4.50)$$

Answers to Qn 3 (AO1): 48% of students got this right

Part	Working or answer an examiner might expect to see	Mark	Notes
3	12.5×1000	1	This mark is given for converting kg to g
	$12500 \div 19.3$	1	This mark is given for a method to find the density of the gold bar
	648	1	This mark is given for the correct answer only

Answers to Qn 4 (AO2): 47% of students got this right

*14 Peter has £20 000 to invest in a savings account for 2 years.

He finds information about two savings accounts.

<p>Bonus Saver</p> <p>Compound interest</p> <p>4% for the first year then 1.5% each year</p>	<p>Fixed Rate</p> <p>Compound interest</p> <p>2.5% each year</p>
---	---

Peter wants to have as much money as possible in his savings account at the end of 2 years.

Which of these savings accounts should he choose?

Bonus Saver	Fixed Rate
$1\% = 200$ $4\% = 800$ <p>After year 1: $£20000 + 800$ $= £20800$</p> $1\% = £208$ $0.5\% = £104$ $1.5\% = £312$ <p>After year 2: $£20800 + £312$ $= \underline{\underline{£21112}}$</p>	20000×1.025^2 $= \underline{\underline{£21012.50}}$

Peter should choose the Bonus Saver Account.

Answers to Qn 5 (AO3): 47% of students got this right

Question	Working	Answer	Mark	Notes																														
5	$x + 4x > 2(x + 48)$ $5x > 2x + 96$ $3x > 96$ $x > 32$ OR <table border="1"> <thead> <tr> <th>S</th> <th>N</th> <th>C</th> <th>S+C</th> <th>2N</th> </tr> </thead> <tbody> <tr> <td>10</td> <td>58</td> <td>40</td> <td>50</td> <td>116</td> </tr> <tr> <td>20</td> <td>68</td> <td>80</td> <td>100</td> <td>136</td> </tr> <tr> <td>30</td> <td>78</td> <td>120</td> <td>140</td> <td>156</td> </tr> <tr> <td>32</td> <td>80</td> <td>128</td> <td>160</td> <td>160</td> </tr> <tr> <td>33</td> <td>81</td> <td>132</td> <td>165</td> <td>162</td> </tr> </tbody> </table>	S	N	C	S+C	2N	10	58	40	50	116	20	68	80	100	136	30	78	120	140	156	32	80	128	160	160	33	81	132	165	162	33	5	B1 for $x + 48$ (or $2x + 96$ oe) and $4x$ M1 for $x + 4x > 2(x + 48)$ oe M1 for subtracting $2x$ from both sides A1 for $3x > 96$ oe A1 cao for 33 OR Trial and Improvement B1 for 1 correct trial of S, N and C M1 for an improved correct trial of S, N and C M1 for a correct trial of 32 M1 for a correct trial of 33 A1 (dep on M2) for 33 cao NB: Accept other letters instead of x NB: an answer of 32 without working scores 0 marks
S	N	C	S+C	2N																														
10	58	40	50	116																														
20	68	80	100	136																														
30	78	120	140	156																														
32	80	128	160	160																														
33	81	132	165	162																														

Answers to Qn 6 (AO2): 47% of students got this right

*7			Yes enough	5	<p>M1 for substituting into Pythagoras' theorem</p> <p>M1 for complete correct use of Pythagoras' theorem (14.866...)</p> <p>M1 for a complete method to find the perimeter of their trapezium</p> <p>A1 55.(86606..)</p> <p>C1 (dep on correct first 2 M marks) for correct conclusion dependent upon supporting calculations</p>
----	--	--	------------	---	--

Answers to Qn 7 (AO2): 47% of students got this right

Paper 1MA1: 2H			
Question	Working	Answer	Notes
5 a		graph	M1 for method to start to find distance cycled in 36 mins, eg. line drawn of correct gradient or $15 \times \frac{36}{60}$ C1 for correct graph from 9.00 am to 9.36 am C1 for graph drawn from "(9.36, 9)" to (10.45, "9" + 8)
b		4.5	M1 for 18×0.25 oe A1 cao

Answers to Qn 8 (AO2): 46% of students got this right

11	(b)		0.015625 or $\frac{1}{64}$	1	B1 cao
	(c)		$9x^6$	2	M1 for either 9 or x^6 in a two term product A1 cao

Answers to Qn 9 (AO2): 45% of students got this right

10	(a)	25×4	100	2	M1 for a method to find the speed e.g $25 \div 15$, $25 \div 0.25$ A1 cao
	(b)		Graph completed	3	B1 horizontal line from (25,45) to (35,45) M1 for a complete method to show the return journey is 45 mins or $\frac{3}{4}$ hour evidenced by the line on the graph or by calculation A1 Correct line drawn from Luscoe (x,45) to (x + 45,0)

Answers to Qn 10 (AO2): 44% of students got this right

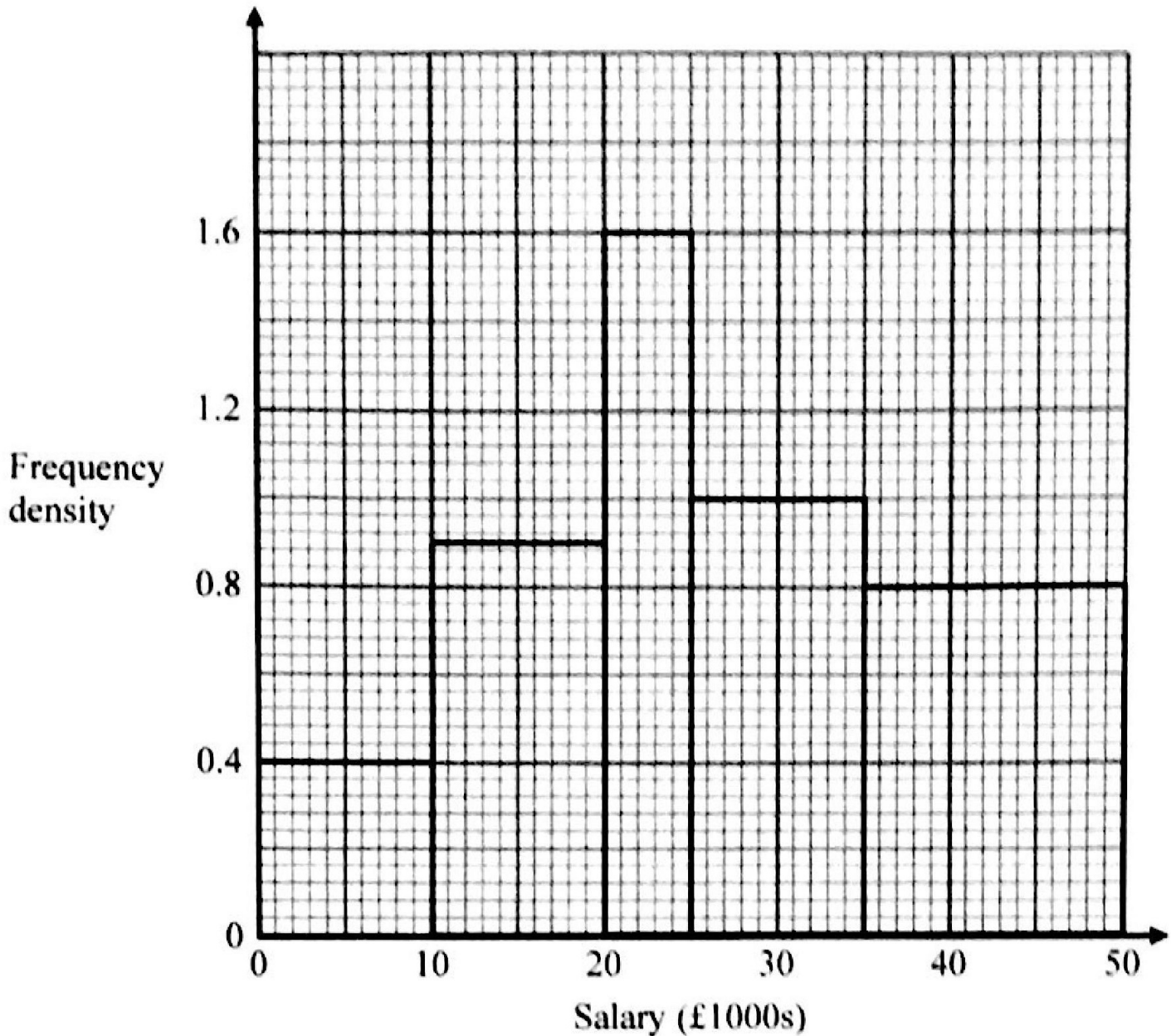
Part	Working or answer an examiner might expect to see	Mark	Notes
6	Width = x Length = $x + 7$	1	This mark is given for forming expressions for the length and width of the rectangle
	$x + x + 7 + x + x + 7 + 7 + x + x + 7 + x + x + 7 + 7 = 70$ $8x + 42 = 70$	1	This mark is given for forming an equation for the width of the shape
	$x = \frac{70 - 42}{8}$	1	This mark is given for finding an expression for x
	width = 3.5, length = 10.5	1	This mark is given for finding values for the width and the length of the shape
	$4 \times 3.5 \times 10.5 = 147$	1	This mark is given for finding the area of the shape

Answers to Qn 11 (AO2): 42% of students got this right

Paper: 1MA1/2H				
Question	Working	Answer	Mark	Notes
12		15	P1 P1 A1	for a process to find the interior or exterior angle of a regular 12 sided polygon e.g. $\frac{10 \times 180}{12}$ (= 150) or $\frac{360}{12}$ (= 30), must be no contradictions for process to find angle <i>STR</i> , eg $\frac{180 - "150"}{2}$ or $\frac{"30"}{2}$ Cao

Answers to Qn 12 (AO1): 41% of students got this right

26 The histogram shows some information about the salaries of a sample of people.



(a) Use the histogram to complete the frequency table.

Salary (p) in £1000s	Frequency
$0 < p \leq 10$	4
$10 < p \leq 20$	9
$20 < p \leq 25$	8
$25 < p \leq 35$	10

Answers to Qn 13 (AO3): 40% of students got this right

*13 Axel and Lethna are driving along a motorway.

They see a road sign.

The road sign shows the distance to Junction 8

It also shows the average time drivers will take to get to Junction 8

<p>To Junction 8</p> <p>30 miles 26 minutes</p>
--

The speed limit on the motorway is 70 mph.

Lethna says,

‘We will have to drive faster than the speed limit to go 30 miles in 26 minutes.’

Is Lethna right?

You must show how you got your answer.

Speed to Junction 8

$$S = \frac{D}{T} \quad S = \frac{30 \text{ miles}}{\underline{\underline{26 \text{ minute}}}} \quad (\text{not hours})$$

change 26 minutes to hours

$$\frac{26}{60} = 0.4\dot{3}$$

$$S = \frac{30}{0.4\dot{3}} = \underline{\underline{69.23076\dot{9}}} \text{ mph}$$

Lethna is wrong, $69.2 \text{ mph} < 70 \text{ mph}$

Answers to Qn 14 (AO1): 40% of students got this right

Paper 1MA1: 2H			
Question	Working	Answer	Notes
5 (a)(i)		10, 12, 14, 15, 16, 18	B1 cao
(ii)		12, 18	B1 cao
(b)		$\frac{7}{10}$	M1 for 7 or indicating correct region or for 10, 14, 16, 11, 13, 17, 19 listed A1 for $\frac{7}{10}$ oe

Answers to Qn 15 (AO1): 38% of students got this right

14 The table gives information about the temperature, $T^{\circ}\text{C}$, at noon in a town for 50 days.

Temperature ($T^{\circ}\text{C}$)	Frequency	mp	F
$8 < T \leq 12$	6	10	60
$12 < T \leq 16$	8	14	112
$16 < T \leq 20$	13	18	234
$20 < T \leq 24$	21	22	462
$24 < T \leq 28$	2	26	52
	$\sum F = 50$		920

(a) Write down the modal class interval.

$$20 < T \leq 24 \quad (1)$$

(b) Calculate an estimate for the mean temperature.

$$\frac{\sum F \times mp}{\sum F} = \frac{920}{50}$$

$$= \underline{\underline{18.4^{\circ}\text{C}}}$$

Answers to Qn 16 (AO3): 36% of students got this right

Paper 1MA1: 3H			
Question	Working	Answer	Notes
12		431	B1 for use of Pythagoras involving the unknown length P1 for setting up an equation equivalent to $x^2 = 15^2 - 5^2 - 7^2$ P1 for finding the volume using their " $\sqrt{15^2 - 5^2 - 7^2}$ " A1awrt 430.5

Answers to Qn 17 (AO3): 34% of students got this right

21 (a) Factorise $4x^2 - 9$

$$(2x)^2 - (3)^2$$

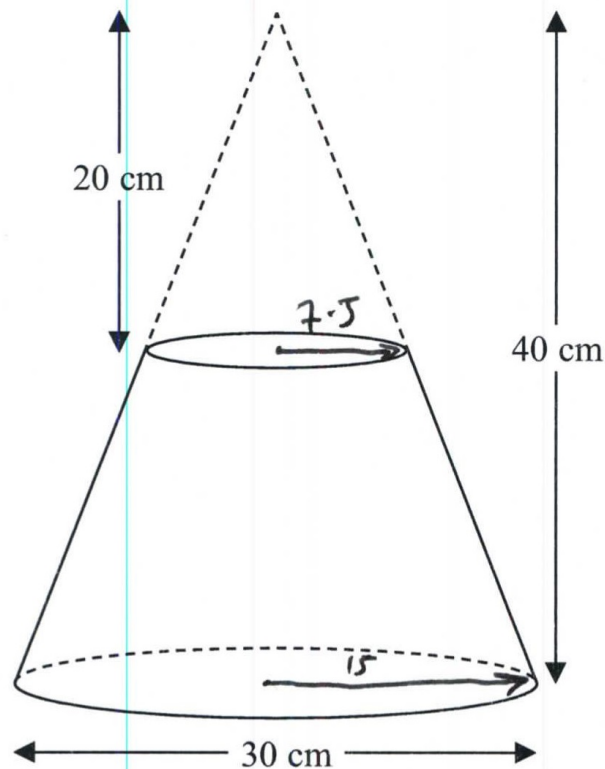
Difference of two squares $\frac{(2x+3)(2x-3)}{(1)}$

Answers to Qn 18 (AO3): 34% of students got this right

Question	Working	Answer	Mark	Notes
13	$\text{Volume of A} = \frac{140}{0.7}$ $= 200$ $\text{Volume of B} = \frac{128}{1.6} = 80$ $\text{Mass of C} = 140 + 128$ $= 268$ $\text{Density of C} = \frac{268}{280}$	0.957	4	<p>M1 for finding the volume of either liquid A or B or the mass of liquid C</p> <p>M1 for a complete method to find the volume AND mass of liquid C</p> <p>M1 (dep M2) for “total mass” ÷ “total volume”</p> <p>A1 for 0.957 to 0.96</p>

Answers to Qn 19 (AO3): 33% of students got this right

22

Diagram **NOT** accurately drawn

A frustum is made by removing a small cone from a similar large cone.

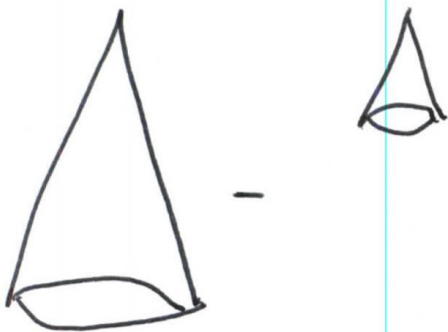
The height of the small cone is 20 cm.

The height of the large cone is 40 cm.

The diameter of the base of the large cone is 30 cm.

Work out the volume of the frustum.

Give your answer correct to 3 significant figures.



$$= \frac{1}{3} \pi \times 15^2 \times 40 - \frac{1}{3} \times \pi \times 7.5^2 \times 20$$

Answers to Qn 20 (AO1): 32% of students got this right

Paper 1MA1: 2H			
Question	Working	Answer	Notes
17		$n^2 - n + 1$ oe	<p>M1 for correct deduction from differences, eg. 2nd</p> <p>M1 difference of 2 implies $1n^2$ or sight of $1^2, 2^2, 3^2, ..$</p> <p>A1 for sight of $1^2, 2^2, 3^2, ..$ linked with 1, 2, 3, ...</p> <p>for $n^2 - n + 1$ oe</p>

Answers to Qn 21 (AO3): 32% of students got this right

22			$3x^2 + 5x + 2 = 0$	3	M1 for finding a correct coefficient M1 for a method to find a and c or b and c A1 $3x^2 + 5x + 1 = 0$ or $a = 3, b = 5, c = 2$
----	--	--	---------------------	---	---

Answers to Qn 22 (AO2): 31% of students got this right

Question	Working	Answer	Mark	Notes
*12	<p>d: UB = 190.5 (190.49..) LB = 189.5</p> <p>f: UB = 25.75 (25.749..) LB = 25.65</p>	<p>7.4</p> <p>because the LB and UB agree to that number of figures</p>	5	<p>B1 for one correct bound of d</p> <p>B1 for one correct bound of f</p> <p>M1 for a correct method to find the upper bound of c, e.g. "190.5" \div "25.65" (= 7.4269....)</p> <p>or for a correct method to find the lower bound of c, e.g. "189.5" \div "25.75" (= 7.359....)</p> <p>A1 for 7.42(69...) and 7.35(92...)</p> <p>C1 (dep on M1) for a statement that both LB and UB round to "7.4" to one decimal place oe</p> <p>NB an answer of 7.39(2996...) or 7.4 without working or from $190 \div 25.7$ scores no marks</p>

Answers to Qn 23 (AO1): 31% of students got this right

Paper 1MA1: 2H			
Question	Working	Answer	Notes
13		119	M1 for 1.06×100 oe M1 for $1.06^3 \times 100$ oe A1 accept 119.1016

Answers to Qn 24 (AO3): 30% of students got this right

Paper: 1MA1/2H				
Question	Working	Answer	Mark	Notes
9		65.60	P1	for start in using inverse proportionality, eg $5 \times 4.5 (= 22.5)$ or $4.5 = \frac{k}{5}$ or $5 \times 4.5 \times 60 (= 1350)$ or $\frac{5}{3}$ or $\frac{3}{5}$
			P1	for process to find number of hours for each cleaner today, eg $\frac{22.5}{3} (= 7.5)$
			A1	for 65.6(0) (SC B2 for 61.5(0))

Ext ANSWERS 1 (AO2): Only 25% of students got this right(3 mark

20 In a sale normal prices are reduced by 20%.

A washing machine has a sale price of £464

By how much money is the normal price of the washing machine reduced?

$$\begin{aligned} \div 8 \text{ } \downarrow & 80\% = £464 \\ & 10\% = £58 \\ & 100\% = \underline{\underline{£580}} \end{aligned}$$

$$\begin{array}{r} £580 \\ - 464 \\ \hline 116 \end{array}$$

Reduced by £116

£ ~~580~~

OR $0.8A = £464$

(Total for Question 20 is 3 marks)

$$A = \frac{464}{0.8} = 580$$

Ext ANSWERS 2 (AO3): Only 25% of students got this right(3 mark

14	(a)		87	3	M1 for $86\% = 75$ M1 for $75 \div 0.86$ oe A1 for $87 - 87.21$
----	-----	--	----	---	---

Ext ANSWERS 3 (AO1): Only 24% of students got this right(3 mark

Part	Working or answer an examiner might expect to see	Mark	Notes
16	Lower bound for distance travelled is 147.5 Upper bound for petrol used is 11.85	1	This mark is given for finding the bounds
	$\frac{100 \times 11.85}{147.5} = 8.03$	1	This mark is given for finding the maximum possible petrol consumption
	Yes, Nathan could be wrong – his car might have used over 8 litres of petrol	1	This mark is given for a correct conclusion supported by working