PINPOINT REVISION PACKS

49_to_60_Percent_Pinpoint_AI_Pack

Time Allocation = 95mins , Max = 84 Marks

Calculated Grade Boundaries:

Grade	Marks
2-	21
2	42
2+	63
3-	84

Question 1 (AO1): 51% of students got this right (3 marks)

17. There are red beads, green beads, blue beads and yellow beads in a bag.
Oscar is going to take at random a bead from the bag.

The table shows the probabilities that Oscar will take a red bead or a green bead.

Colour	**Red**	**Green**	**Blue**	**Yellow**
Probability	0.5	0.2		

It is equally likely that Oscar will take a blue bead or will take a yellow bead.

Work out the probability that Oscar will take a blue bead.

.....

(Total 3 marks)

Question 2 (AO1): (No Calc) 50% of students got this right (2 marks)

10 (*a*) Solve $3x + 7 = 1$

Question 3 (AO1): (No Calc) 50% of students got this right (1 marks)

7. Jack and Max share some counters.

Jack has 3 times as many counters as Max.

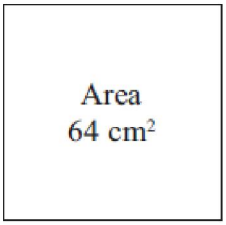
(*a*) Write down the ratio of the number of counters Jack has to the number of counters Max has.

.....

(1)

Question 4 (AO1): 50% of students got this right (1 marks)

13. Here is a square.



The area of the square is 64 cm^2.

(a) Work out the length of one side of the square.

..... cm
(1)

Question 5 (AO2): (No Calc) 49% of students got this right (4 marks)

10. Debbie, Salma and Wendy did a Maths test.
The total for the test was 40 marks.

Debbie got 16 out of 40

Salma got 35% of the 40 marks.

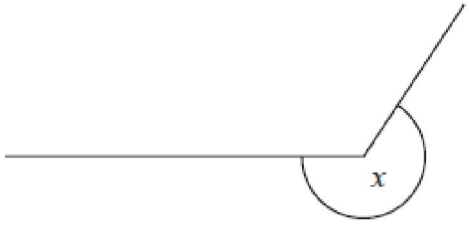
Wendy got $\frac{3}{8}$ of the 40 marks.

Who got the highest mark?
You must show all your working.

(Total 4 marks)

Question 6 (AO1): (No Calc) 49% of students got this right (1 marks)

8.



(a) Write down the mathematical name for the type of angle marked x.

.....

(1)

Question 7 (AO2): 48% of students got this right (5 marks)

15. Tom is going to buy 25 plants to make a hedge.
Here is information about the cost of buying the plants.

Kirsty's Plants	**Hedge World**
£2.39 each	Pack of 25 £52.50 plus VAT at 20%

Tom wants to buy the 25 plants as cheaply as possible.

Should Tom buy the plants from Kirsty's Plants or from Hedge World?
You must show all your working.

(Total 5 marks)

Question 8 (AO1): (No Calc) 48% of students got this right (2 marks)

10. Make an accurate drawing of an equilateral triangle of side length 5 cm.

(Total 2 marks)

Question 9 (AO2): (No Calc) 48% of students got this right (2 marks)

14 Is 45×300 greater than 90×155?

Give a reason for your answer.

[2 marks]

Tick a box

Yes ☐ No ☐

Reason

Question 10 (AO1): (No Calc) 46% of students got this right (2 marks)

22 (*a*) Work out $\frac{2}{5}+\frac{1}{4}$

Question 11 (AO2): 46% of students got this right (4 marks)

14. Ria is going to buy a caravan.
The total cost of the caravan is £7000 **plus** VAT at 20%.

Ria pays a deposit of £3000.
She pays the rest of the total cost in 6 equal monthly payments.

Work out the amount of each monthly payment.

£.....

(Total 4 marks)

Question 12 (AO1): (No Calc) 46% of students got this right (1 marks)

3 (*a*) Simplify $7 \times e \times f \times 8$

.....

(1)

Question 13 (AO1): 46% of students got this right (3 marks)

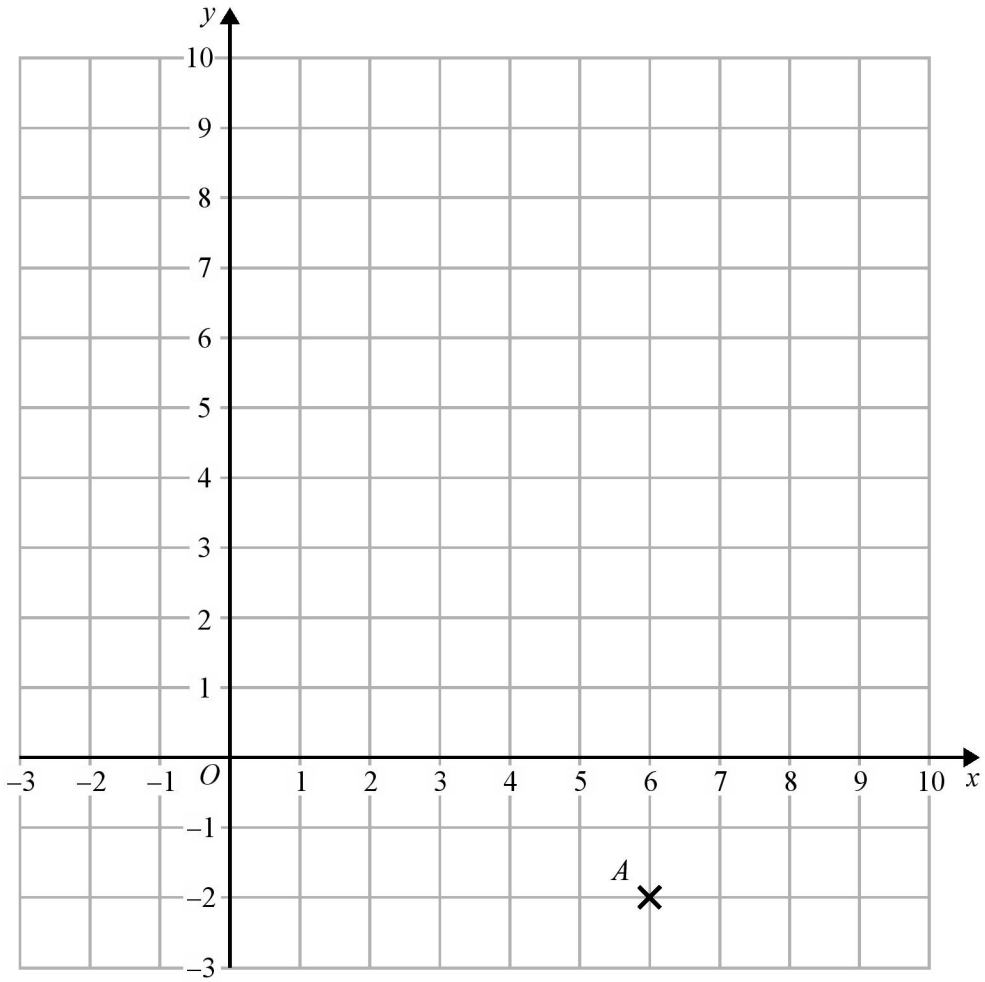
3 (*a*) Work out $84 \div 3$

(*b*) Work out 0.17×6000

(*c*) Work out $(-2)^3$

Question 14 (AO2): (No Calc) 46% of students got this right (2 marks)

7



(*b*) (i) Plot the point with coordinates (2, 9).
Label this point *B*.

(ii) Does point *B* lie on the straight line with equation $y = 4x + 1$?
You must show how you get your answer.

Question 15 (AO2): (No Calc) 45% of students got this right (4 marks)

15. 3 jars of paprika and 4 packets of sage have a total weight of 290 grams.
7 jars of paprika have a total weight of 210 grams.

Work out the total weight of 2 jars of paprika and 2 packets of sage.

..... g

(Total for Question 15 is 4 marks)

Question 16 (AO1): 45% of students got this right (4 marks)

20. (a) Find the Highest Common Factor (HCF) of 12 and 20

.....

(2)

(b) Find the Lowest Common Multiple (LCM) of 32 and 48

.....

(2)

(Total 4 marks)

Question 17 (AO1): (No Calc) 44% of students got this right (3 marks)

19. Work out 4.52×36

Question 18 (AO1): (No Calc) 44% of students got this right (1 marks)

8a The stem and leaf diagram shows information about the heights, in cm, of the boys in a class.

14	0	2	9			
15	1	1	3	5	7	
16	2	4	5	7	8	9
17	6	6	7	9		
18	0	0	1			

Key: 15 | 1 represents 151 cm

(a) Find the median height.

..... cm

(1)

Question 19 (AO1): (No Calc) 44% of students got this right (4 marks)

14. (a) Write 8 45 p.m. as a 24-hour clock time.

Seeta did a puzzle in 3 minutes 45 seconds.
Ninal did the same puzzle in 7 minutes 28 seconds.

Seeta says,

'I did the puzzle in less than half the time Ninal did the puzzle.'

(b) Is Seeta right?
You must show all your working.

Question 20 (AO1): 44% of students got this right (1 marks)

3 Write $\frac{3}{25}$ as a percentage.

..... %

(Total for Question 3 is 1 mark)

Question 21 (AO1): 43% of students got this right (5 marks)

9 Here are five fractions.

$$\frac{2}{8} \quad \frac{10}{40} \quad \frac{12}{48} \quad \frac{5}{24} \quad \frac{20}{80}$$

One of these fractions is **not** equivalent to $\frac{1}{4}$.

(*a*) Write down this fraction.

(*b*) Work out $\frac{2}{7}+\frac{1}{14}$

(*c*) Work out $\frac{4}{5}+\frac{3}{10}$

Give your answer in its simplest form.

Question 22 (AO1): 42% of students got this right (2 marks)

18. (*c*) Write these numbers in order of size.
Start with the smallest number.

2.73×10^3 27.3×10^{-3} 273×10^2 0.00273

.....

(2)

(Total 4 marks)

Question 23 (AO2): (No Calc) 42% of students got this right (3 marks)

8. Write down an example to show that each of the following statements is **not** correct.

(a) The sum of an odd number and an even number is even.

.....

.....

(b) The product of two prime numbers is never even.

.....

.....

(c) When you square an integer the result is always an even integer.

.....

.....

(Total for Question 8 is 3 marks)

Question 24 (AO3): (No Calc) 41% of students got this right (4 marks)

18 A number of students go on a coach trip.

The cost of hiring the coach is £180.
The school pays 80% of this cost.
The students pay the rest of the cost.

Each student pays £1.50.

Work out the number of students on the coach trip.

Question 25 (AO1): (No Calc) 41% of students got this right (2 marks)

20 Azmol is paid £1500 per month.
He is going to get a 3% increase in the amount of money he is paid.

Work out how much money Azmol will be paid per month after the increase.

£.....

(Total for Question 20 is 2 marks)

Question 26 (AO3): (No Calc) 41% of students got this right (3 marks)

14. Buses to Acton leave a bus station every 24 minutes.
Buses to Barton leave the same bus station every 20 minutes.

A bus to Acton and a bus to Barton both leave the bus station at 9 00 am.

When will a bus to Acton and a bus to Barton next leave the bus station at the same time?

.....

(Total 3 marks)

Question 27 (AO2): 41% of students got this right (3 marks)

12. Which of these is the largest fraction?

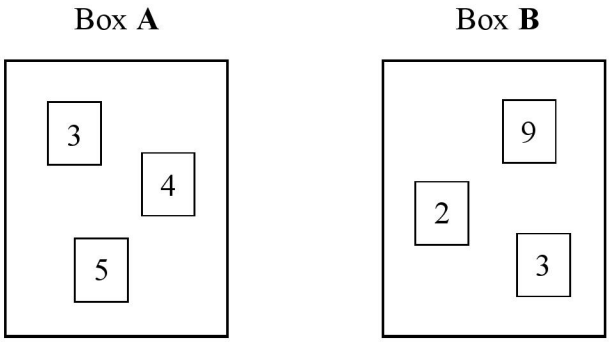
$$\frac{7}{10} \qquad \frac{3}{5} \qquad \frac{29}{40}$$

You must show clearly how you got your answer.

(Total 3 marks)

Question 28 (AO1): (No Calc) 41% of students got this right (2 marks)

17 There are 3 cards in Box **A** and 3 cards in Box **B**.
There is a number on each card.



Ryan takes at random a card from Box **A** and a card from Box **B**.
He adds together the numbers on the two cards to get a total score.

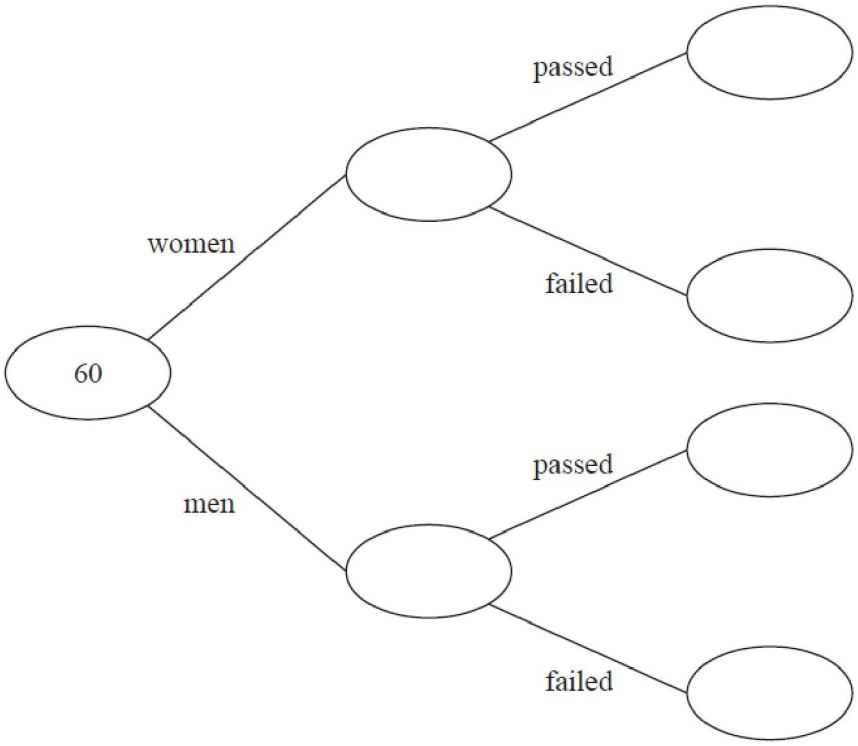
Work out the probability that the total score is an odd number.

Question 29 (AO1): (No Calc) 41% of students got this right (2 marks)

12b 60 people each took a driving test one day.

25 of these people were women.
22 of the 60 people failed their test.
20 of the men passed their test.

Use this information to complete the frequency tree.



One of the men is chosen at random.

(b) Work out the probability that this man failed his test.

.....

(2)

(Total for Question 12 is 5 marks)

Question 30 (AO3): (No Calc) 40% of students got this right (5 marks)

19 Ajit is a barber.

He charges £5 for a haircut.

He charges 10% extra for hair gel.

One day 65 customers have a haircut.

12 of these ask for hair gel.
Work out the **total** amount that Ajit charges his customers that day.

[5 marks]

Answer £ _____

Question 31 (AO1): (No Calc) 40% of students got this right (3 marks)

8 (*a*) Work out $\frac{5}{8} \times \frac{3}{4}$

.....

(1)

(*b*) Work out $\frac{2}{3} - \frac{1}{4}$

.....

(2)

(Total for Question 8 is 3 marks)

Ext Qn1 (AO1): Only 33% of students got this right(3 marks)

23 Work out 54.6×4.3

.....

(Total for Question 23 is 3 marks)

Ext Qn2 (AO1): (No Calc) Only 33% of students got this right(2 mark

10 A farmer has 20 boxes of eggs.
There are 6 eggs in each box.

Write, as a ratio, the number of eggs in two boxes to the total number of eggs.
Give your answer in its simplest form.

.....

(Total for Question 10 is 2 marks)

Ext Qn3 (AO1): (No Calc) Only 33% of students got this right(4 mark

16 There is a special offer.

T-shirts £5.80 each. Buy 30 or more T-shirts. Get 10% off the total cost.

(*b*) Work out the actual cost of buying 35 T-shirts using the special offer.

Answers to Qn 1 (AO1): 51% of students got this right

Question		Working	Answer	Mark	Notes
17.		$1 - (0.5 + 0.2)$ $0.3 \div 2$	0.15	3	M1 for $1 - (0.5 + 0.2)$ or 0.3 oe seen M1 for $(1 - (0.5 + 0.2)) \div 2$ A1 for 0.15 oe

Answers to Qn 2 (AO1): (No Calc) 50% of students got this right

Paper 1MA1: 1F			
Question	**Working**	**Answer**	**Notes**
10 a		−2	M1 For subtraction of 7 from both sides or division of all terms by 3 as first step of solution A1 cao

Answers to Qn 3 (AO1): (No Calc) 50% of students got this right

7.	(*a*)		3 : 1	1	B1

Answers to Qn 4 (AO1): 50% of students got this right

Question		Working	Answer	Mark	Notes
13.	(a)		8	1	B1 cao

Answers to Qn 5 (AO2): (No Calc) 49% of students got this right

10. Debbie, Salma and Wendy did a Maths test.
The total for the test was 40 marks.

Debbie got 16 out of 40

Salma got 35% of the 40 marks.

Wendy got $\frac{3}{8}$ of the 40 marks.

Who got the highest mark?
You must show all your working.

S: $(35 \div 100) \times 40 = 14$

W: $(40 \div 8) \times 3 = 15$

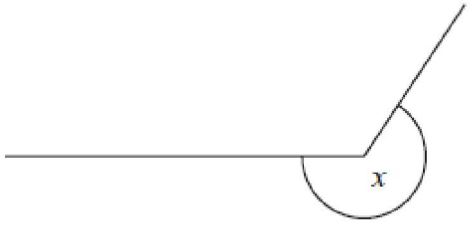
D: 16

Debbie got the highest mark

(Total 4 marks)

Answers to Qn 6 (AO1): (No Calc) 49% of students got this right

8.



(a) Write down the mathematical name for the type of angle marked x.

Reflex

(1)

Answers to Qn 7 (AO2): 48% of students got this right

15. Tom is going to buy 25 plants to make a hedge.
Here is information about the cost of buying the plants.

Kirsty's Plants	**Hedge World**
£2.39 each	Pack of 25 £52.50 plus VAT at 20%

Tom wants to buy the 25 plants as cheaply as possible.

Should Tom buy the plants from Kirsty's Plants or from Hedge World?
You must show all your working.

Kirsty's Plants:

4000 + 1000 + 600 + 150 + 180 + 45 = £59.75

Hedge World:

52.50 × 1.2 = £63.00

(Total 5 marks)

Answers to Qn 8 (AO1): (No Calc) 48% of students got this right

10.			Triangle drawn	2	M1 for a triangle with at least one side of length 5 cm (± 0.2) or at least one angle 60° (±2°) A1 for a correct triangle

Answers to Qn 9 (AO2): (No Calc) 48% of students got this right

14 Is 45×300 greater than 90×155?

Give a reason for your answer.

Tick a box

Yes ☐ No ☑

Reason 40 is half of 90, but 300 is less than half of 155

13 500 < 13 950

Answers to Qn 10 (AO1): (No Calc) 46% of students got this right

Part	Working or answer an examiner might expect to see	Mark	Notes
22 (a)	$\frac{8}{20} + \frac{5}{20}$ or 0.4 + 0.25	1	This mark is given for a suitable common denominator with one fraction out of two correct or decimal equivalents
	$\frac{13}{20}$ or 0.65	1	This mark is given for the correct answer only

Answers to Qn 11 (AO2): 46% of students got this right

Question		Working	Answer	Mark	Notes
14			900	4	M1 for 0.2 × 7000 (= 1400) or 1.2 × 7000 (= 8400) oe M1 for 7000 + "1400" − 3000 (= 5400) oe M1 for "5400" ÷ 6 A1 cao

Answers to Qn 12 (AO1): (No Calc) 46% of students got this right

Question 3 (Total 2 marks)

Part	Working or answer an examiner might expect to see	Mark	Notes
(a)	$7 \times 8 \times e \times f = 56ef$	B1	This mark is given for the correct answer only

Answers to Qn 13 (AO1): 46% of students got this right

Paper 1MA1: 1F			
Question	**Working**	**Answer**	**Notes**
3 a		28	B1
b		1020	B1
c		−8	B1

Answers to Qn 14 (AO2): (No Calc) 46% of students got this right

Part	Working or answer an examiner might expect to see	Mark	Notes
7 (b)(i)	Point marked at (2, 9)	1	This mark is given for the correct answer only
(b)(ii)	$(4 \times 2) + 1 = 9$ Yes, since when $x = 2$, $y = 9$	1	This mark is given for a correct answer with a reason

Answers to Qn 15 (AO2): (No Calc) 45% of students got this right

15		160	P1	process to find the cost of paprika, e.g. 210 ÷ 7 (=30)
			P1	process to find the cost of sage, e.g. (290 – (3× (210÷7))) ÷ 4 (=50)
			P1	(dep P2) process to find the required cost , e.g. 2 × "30" + 2 × "50" or 2 × ("30" + "50"
			A1	cao

16

Answers to Qn 16 (AO1): 45% of students got this right

Question		Working	Answer	Mark	Notes
20.	(a)	$12 = 2 \times 2 \times 3$ $20 = 2 \times 2 \times 5$ OR 12: 1, 2, 3, 4, 6, 12 20: 1, 2, 4, 5, 10, 20	4	2	M1 for dealing with both 12 **and** 20 by, Writing each number as a product of prime factors (condone one error only); or by, Listing the factors of each number (condone one error only), or by, Drawing a Venn Diagram (or two factor trees) showing all prime factors of each number (condone one error only) A1 for HCF = 4 (accept 2×2 or 2^2)
	(b)	$32 = 2 \times 2 \times 2 \times 2 \times 2$ $48 = 2 \times 2 \times 2 \times 2 \times 3$ OR 32. 64, 96, 128, … 48, 96, 144, ….	96	2	M1 for dealing with both 32 **and** 48 by, Writing each number as a product of prime factors (condone one error only); or by, Listing the multiples of each number , up to at least 96 in each list (condone one error only), or by, Drawing a Venn Diagram (or two factor trees) showing all prime factors of each number (condone one error only) A1 for LCM = 96 (accept $2^5 \times 3$ or $2 \times 2 \times 2 \times 2 \times 2 \times 3$) [SC: B1 for any multiple of both 32 and 48 (e.g. 192) if M0 scored]

Answers to Qn 17 (AO1): (No Calc) 44% of students got this right

Question		Answer	Mark	Notes
19		162.72	3	M1 for complete method with relative place value correct. Condone 1 multiplication error, addition not necessary. OR M1 for a complete grid. Condone 1 multiplication error, addition not necessary. OR M1 for sight of a complete partitioning method, condone 1 multiplication error. Final addition not necessary. A2 for 162.72 (A1 (dep on M1) for correct placement of decimal point after final addition of appropriate values or for digits 16272 seen) (SC; B1 for attempting to add 36 lots of 4.52)

Answers to Qn 18 (AO1): (No Calc) 44% of students got this right

8 The stem and leaf diagram shows information about the heights, in cm, of the boys in a class.

14	0	2	9			
15	1	1	3	5	7	
16	2	4	5	7	8	9
17	6	6	7	9		
18	0	0	1			

Key: 15 | 1 represents 151 cm

(a) Find the median height.

165 cm

Answers to Qn 19 (AO1): (No Calc) 44% of students got this right

Question		Answer	Mark	Notes
*14	(a)	20 45	1	B1
	(b)	No	3	M1 for doubling Seeta's time or halving Ninal's time or finding the difference between the two times Eg 3 min 45 sec × 2 or (7m 28s) ÷ 2 or 7m 28s-3min 45 secs M1 for a complete method to convert their time(s) to common units with the units stated C1 for No and **correct** figures compared (could be in secs or mins and secs)

Answers to Qn 20 (AO1): 44% of students got this right

3 Write $\frac{3}{25}$ as a percentage.

$\frac{3}{25} \times \frac{4}{4} = \frac{12}{100}$

$\frac{12}{100} \times 100 = 12\%$

Answers to Qn 21 (AO1): 43% of students got this right

Paper 1MA1: 1F			
Question	**Working**	**Answer**	**Notes**
9 a		$\frac{5}{24}$	B1
b		$\frac{5}{14}$	M1 For using a correct common denominator A1 For $\frac{5}{14}$ oe
c		$2\frac{2}{3}$	M1 for $\frac{4}{5}\times\frac{10}{3}$ oe A1 for $2\frac{2}{3}$ or $\frac{8}{3}$

Answers to Qn 22 (AO1): 42% of students got this right

Question		Working	Answer	Mark	Notes
18	(c)		0.00273 27.3×10^{-3} 2.73×10^{3} 273×10^{2}	2	M1 for converting all numbers to same form with at least one conversion correct A1 for fully correct order with correct numbers in any correct form (SC B1 if one number incorrectly placed or all 4 numbers listed in reverse order)

Answers to Qn 23 (AO2): (No Calc) 42% of students got this right

8	(a)		example	B1	e.g. $3 + 8 = 11$
	(b)		example	B1	e.g. $2 \times 7 = 14$
	(c)		example	B1	e.g. $9 \times 9 = 81$

Answers to Qn 24 (AO3): (No Calc) 41% of students got this right

Question	Working	Answer	Mark	Notes
18		24	P1	for start to a process to find cost for students, e.g. $100 - 80$ (= 20) or $180 \times \frac{80}{100}$ (= 144)
			P1	for complete process, e.g. $180 \times \frac{"20"}{100}$ (= 36) or 180 – "144" (= 36)
			P1	for start to the process to find "36" ÷ 1.5, e.g. 360 ÷ 15
			A1	cao

Answers to Qn 25 (AO1): (No Calc) 41% of students got this right

Question 20 (Total 2 marks)

Part	Working an or answer examiner might expect to see	Mark	Notes
	$1500 \times 0.03 = 45$	M1	This mark is given for a method of calculating a 3% increase
	$1500 + 45 = 1545$	A1	This mark is given for the correct answer only

Answers to Qn 26 (AO3): (No Calc) 41% of students got this right

14.		Acton after 24, 48, 72, 96, 120 Barton after 20, 40, 60, 80, 100, 120 LCM of 20 and 24 is 120 9:00 am + 120 minutes **OR** Acton after 24, 48, 1h 12 m, 1h 36m, 2h Barton after 20, 40, 1 h, 1h 20m, 1h 40m, 2h LCM is 2 hours 9:00 am + 2 hours **OR** Times from 9:00 am when each bus leaves the bus station Acton at 9:24, 9:48, 10:12, 10:36, 11:00 Barton at 9:20, 9:40, 10:00, 10:20, 10:40, 11:00 **OR** $20 = 2 \times 2 \times 5$ $24 = 2 \times 2 \times 2 \times 3$ $2 \times 2 \times 2 \times 3 \times 5 = 120$	11:00 am	3	M1 for listing multiples of 20 and 24 with at least 3 numbers in each list ; multiples could be given in minutes or in hours and minutes (condone one addition error in total in first 3 numbers in lists) A1 identify 120 (mins) or 2 (hours) as LCM A1 for 11:00 (am) or 11(am) or 11 o'clock **OR** M1 for listing times after 9am when each bus leaves the bus station, with at least 3 times in each list (condone one addition error in total in first 3 times after 9am in lists) A1 for correct times in each list up to and including 11:00 A1 for 11:00 (am) or 11(am) or 11 o'clock **OR** M1 for correct method to write 20 and 24 in terms of their prime factors 2, 2, 5 and 2, 2, 2, 3 (condone one error) A1 identify 120 as LCM A1 for 11:00 (am) or 11(am) or 11 o'clock

Answers to Qn 27 (AO2): 41% of students got this right

Question		Working	Answer	Mark	Notes
12			$\frac{29}{40}$	3	M1 for writing $\frac{7}{10}$ as $\frac{28}{40}$ **or** $\frac{3}{5}$ as $\frac{24}{40}$ M1 for writing $\frac{7}{10}$ as $\frac{28}{40}$ **and** $\frac{3}{5}$ as $\frac{24}{40}$ C1 for correct conclusion with supportive evidence

Answers to Qn 28 (AO1): (No Calc) 41% of students got this right

Part	Working or answer an examiner might expect to see	Mark	Notes
17	3 + 9 = 12, 3 + 2 = 5, 3 + 3 = 6 4 + 9 = 13, 4 + 2 = 6, 4 + 3 = 7 5 + 9 = 14, 5 + 2 = 7, 5 + 3 = 8	1	This mark is given for a sample space or listed outcomes
	$\frac{4}{9}$	1	This mark is given for the correct answer only

Answers to Qn 29 (AO1): (No Calc) 41% of students got this right

12 One of the men is chosen at random.

(b) Work out the probability that this man failed his test.

$\frac{15}{35} = \frac{3}{7}$

Answers to Qn 30 (AO3): (No Calc) 40% of students got this right

19 Ajit is a barber.

He charges £5 for a haircut.

He charges 10% extra for hair gel.

One day 65 customers have a haircut.

12 of these ask for hair gel.
Work out the **total** amount that Ajit charges his customers that day.

10 % of £5.00 = 50 p

£5.00 + 50p = £5.50

£5.50 × 12 = £66

£5.00 × 53 = £265

265 + 66

Answer £ 331

Answers to Qn 31 (AO1): (No Calc) 40% of students got this right

Question 8 (Total 3 marks)

Part	Working or answer an examiner might expect to see	Mark	Notes
(a)	$\frac{5}{8} \times \frac{3}{4} = \frac{5\times3}{8\times4} = \frac{15}{32}$	B1	This mark is given for the correct answer only
(b)	$\frac{2}{3} \times \frac{1}{4} = \frac{8}{12} - \frac{3}{12}$	M1	This mark is given for a method to uses a common denominator
	$\frac{5}{12}$	A1	This mark is given for the correct answer only

Ext ANSWERS 1 (AO1): Only 33% of students got this right(3 mark

Question 23 (Total 3 marks)

Part	Working or answer an examiner might expect to see	Mark	Notes
	21840 1638 ×	M1	This mark is given for a method to multiply the two numbers together
	23478	A1	This mark is given for digits 23478
	234.78	A1	This mark is given for the correct placement of the decimal point into the final answer

Ext ANSWERS 2 (AO1): (No Calc) Only 33% of students got this rigl

Question 10 (Total 2 marks)

Part	Working or answer an examiner might expect to see	Mark	Notes
	Number of eggs in two boxes $= 2 \times 6 = 12$ Total number of eggs = number of eggs in 20 boxes $= 20 \times 6 = 120$ Ratio is thus 12 : 120	M1	This mark is given for a methods to find the number of eggs in two boxes and the total number of eggs in 20 boxes
	1:10	A1	This mark is given for the correct answer only

Ext ANSWERS 3 (AO1): (No Calc) Only 33% of students got this rigl

Part	Working or answer an examiner might expect to see	Mark	Notes
16 (b)	$35 \times 5.80 = 203$	1	This mark is given for a process to find the cost of 35 shirts before the discount is applied
	$203 \times 10\% = 20.30$	1	This mark is given for a process to find 10% of the cost
	$203 - 20.30$	1	This mark is given for a complete process to find actual cost of 35 T-shirts
	182.70	1	This mark is given for the correct answer only