

DEGREE OF ACCURACY

Pearson Edexcel - Tuesday 11 June 2019 - Paper 3 (Calculator) Higher Tier

1.

19	(a)	81.0662	M1	for one of 26.15 or 26.25 or 4.25 or 4.35	Accept 26.249 for 26.25 and 4.349 for 4.35 Award for $\frac{26.25^2}{4.25}$
	M1		for a correct process to find the upper bound for D [UB of u] ² ÷ [2 × LB of a] eg $\frac{26.25^2}{2 \times 4.25}$ where $26.2 < \text{UB of } u \leq 26.25$ and $4.25 \leq \text{LB of } a < 4.3$		
	(b)	80 explanation	A1	for answer given in the range 81.0661 to 81.0662 from correct working	
			B1	for 80 ft answer to (a) with 78.6003	
			C1	for explanation relating to the upper bound found in (a) Acceptable examples bounds agree when rounded to 80 bounds agree to nearest 10 Not acceptable examples 80 79.83325 rounded to nearest tenth	

Pearson Edexcel - Monday 12 November 2018 - Paper 3 (Calculator) Higher Tier

2.

18	2.7 with statement	B1	for 179.5 or 180.5 or 180.4999...	Accept bounds truncated or rounded to at least 4 sig fig
		B1	for 486.5 or 487.5 or 487.4999...	
		P1	for a correct process to find a bound for average speed, eg [upper bound of distance] ÷ [lower bound of time] where $487 < [\text{UB of distance}] \leq 487.5$ and $179.5 \leq [\text{LB of time}] < 180$ or for [lower bound of distance] ÷ [upper bound of time] where $486.5 \leq [\text{LB of distance}] < 487$ and $180 < [\text{UB of time}] \leq 180.5$	
		A1	(dep on all previous marks) for 2.695(2...) and 2.715(8 ...) with both values clearly coming from working with correct values	
		C1	for 2.7 from 2.695... and 2.715... and statement that both LB and UB round to 2.7	

Pearson Edexcel - Thursday 7 June 2018 - Paper 2 (Calculator) Higher Tier

3.

21	0.43	B1	for one correct bound for mass or length eg 1967.5 or 1972.5 or 13.15 or 15.95 or 21.65 or 13.25 or 16.05 or 21.75	Can work in any units
		P1	for a correct process to find a bound for the volume, eg $13.15 \times 15.95 \times 21.65$ (=454(0.925125)) or $13.25 \times 16.05 \times 21.75$ (=462(5.409375))	Accept volumes truncated or rounded to at least 3 sig fig
		P1	for a correct process to find a bound for density, eg [mass LB] ÷ "462(5.409375)" (=0.425(367755)) where $1965 \leq \text{mass LB} < 1970$ or [mass UB] ÷ "454(0.925125)" (=0.434(3828506)) where $1970 < \text{mass UB} \leq 1975$	Accept densities truncated or rounded to at least 3 sig fig
		A1	for both correct bounds, 0.425(367755) and 0.434(3828506)	Accept bounds truncated or rounded to at least 3 sig fig At this point correct units must be used
		C1	(dep on A1) for a correct statement on degree of accuracy e.g. UB and LB both round to 0.43 to 2 decimal places or 2 significant figures	Must be 0.43 not 0.4

Pearson Edexcel - Tuesday 13 June 2017 - Paper 3 (Calculator) Higher Tier

4.

17	(a)	No (supported)	P1 P1 P1 C1	for 265 or 275 or 274.999... or 107.5 or 112.5 or 112.4999... process to find $\frac{d}{t}$ where $270 < d \leq 275$ and $107.5 \leq t < 110$ oe for process to work in consistent units of time eg $\frac{d}{t} \times 60$ or $t \div 60$ where $265 \leq d \leq 275$ and $107.5 \leq t < 110$ oe or $160 \div 60 (= 2.666...)$ Conclusion supported with correct figure(s) given eg No and 153(.488..) or No and 2.66 to 2.7 and 2.5(581..) from correct working
	(b)	Statement	C1	e.g. Less distance in the same time so (max) speed would drop

Pearson Edexcel - Specimen Papers Set 1 - Paper 3 (Calculator) Higher Tier

5.

2		$12.5 \leq L < 13.5$	B1 12.5 B1 13.5 or 13.49
---	--	----------------------	-----------------------------

Pearson Edexcel - Sample Paper 2 - (Calculator) Higher Tier

6.

18		0.229 With Explanation	B1 Finding bound of s: 3.465 or 3.475 or 3.474999... or Finding bound of t: 8.1315 or 8.1325 or 8.132499... P1 Use of "upper bound" and "lower bound" in equation P1 Process of choosing correct bounds eg $\frac{\sqrt{3.475}}{8.1315}$ or $\frac{\sqrt{3.465}}{8.1325}$ A1 For 0.2292... and 0.2288.. from correct working C1 For 0.229 from 0.2292.. and 0.2288.. since both LB and UB round to 0.229
----	--	------------------------------	--

Pearson Edexcel - Sample Paper 2 - (Calculator) Higher Tier

7.

22		1361	P1 process using similar triangles to find base of small cone eg. 4 cm used as diameter or 2 cm used as radius P1 process to find volume of one cone P1 complete process to find volume of frustum P1 complete process to find mass or 1360 – 1362 A1 1361 or 1360 or 1400
----	--	------	--

Pearson Edexcel - Monday 4 March 2013 - Paper 2 (Calculator) Higher Tier

8.

*24		0.229 because the LB and UB agree to that number of figures	5	B1 for 3.465 or 3.475 or 3.474999... B1 for 8.1315 or 8.1325 or 8.132499... M1 for $\frac{\sqrt{3.475}}{8.1315}$ as UB OR $\frac{\sqrt{3.465}}{8.1325}$ as LB C1 (dep on all previous marks) for 0.2292... and 0.2288... both values must clearly come from working with correct values C1 for 0.229 from 0.2292... and 0.2288... and 'both LB and UB round to 0.229'
-----	--	---	---	---

Pearson Edexcel - Monday 5 March 2012 - Paper 4 (Calculator) Higher Tier

9.

22		Upper bound $\frac{163.5}{45.25} = 3.613259669$ Lower bound $\frac{162.5}{45.35} = 3.583241455$	3.6 because the LB and UB agree to that number of figures	5	B1 for either 162.5 or 163.5 or 163.4999... B1 for either 45.25 or 45.35 or 45.34999... M1 for "163.5" ÷ "45.25" where $163 < '163.5' \leq 164$ and $45.2 \leq '45.25' < 45.3$ or for "162.5" ÷ "45.35" where $162 \leq '162.5' < 163$ and $45.3 < '45.35' \leq 45.4$ A1 for 3.613(...) and 3.583(...) (Note: accept 3.61 and 3.58 from $\frac{163.5}{45.25}$ and $\frac{162.5}{45.35}$) A1 for 3.6 and 'both LB and UB round to 3.6' oe NB 3.6 without working scores no marks
----	--	--	--	---	---

Pearson Edexcel - Tuesday 10 November 2009 - Paper 4 (Calculator) Higher Tier

10.

28		Upper bound $\sqrt{\frac{6.435}{5.5135}} = 1.080340$ Lower bound $\sqrt{\frac{6.425}{5.5145}} = 1.079402$	1.08 because the LB and UB agree to that number of figures	5	B1 for either 6.435 or 6.425 or 6.434999... B1 for either 5.5145 or 5.5135 or 5.5144999... M1 for '6.435' ÷ '5.5135' where $6.43 < '6.435' \leq 6.44$ and where $5.513 \leq '5.5135' < 5.514$ OR for '6.425' ÷ '5.5145' where $6.42 \leq '6.425' < 6.43$ and where $5.514 < '5.5145' \leq 5.515$ A1 for 1.0794(02...) and 1.0803(40...) A1 for 1.08 and 'both LB and UB round to 1.08' oe
----	--	--	---	---	---

11.