

TIME

Pearson Edexcel – Thursday 4 June 2020 - Paper 2 (Calculator) Higher Tier

1.

19	788.4	P1	for substituting values, eg $1040 = K \times 1200 + 20$	
		P1	for process to find K , eg $(1040 - 20) \div 1200$ oe ($= 0.85$)	
		P1	for complete process, eg 09 17: $"0.85" \times 1040 + 20$ ($= 904$); 09 18: $"0.85" \times "904" + 20$	
		A1	for 788.4 or 788 or 789	

Pearson Edexcel – Monday 8 June 2020 - Paper 3 (Calculator) Higher Tier

2.

2	2 hours 45 minutes	P1	for $30 \div 24$ ($= 1.25$) or $12 \div 8$ ($= 1.5$)	May be written in hours and/or minutes or 3 h 15 min or 2 h 75 min
		P1	for finding the sum of their two times eg $"1.25" + "1.5"$ ($= 2.75$) or 165 (minutes)	
		A1	cao	

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

3.

11	(a)	130	P1	for process to divide eg $(3.9 \times 10^3) \div (3 \times 10^2)$	Condone missing brackets Accept 1.3×10^2
			A1	cao	
	(b)	Explanation	C1	Explanation referring to the time Acceptable examples The time will be more It will take longer The answer will be bigger Not acceptable examples The answer will be wrong The answer will be different	

Pearson Edexcel - Tuesday 6 November 2018 - Paper 1 (Non-Calculator) Higher Tier

4.

4	(a)	200	M1	for $120 \times 5 \div 3$ oe	
			A1	cao	
	(b)	statement	C1	Statement that each tap fills at the same rate or that the rate does not change over time Examples Acceptable responses: Taps are running at the same speed They (clearly referring to taps) all fill the pool with the same volume of water The amount of water is the same in the same time (again referring to taps) Each tap is doing a fifth of the filling That all taps take equal time to fill the pool All taps produce the same amount of water That the water flow stays at the same rate over the whole time. Non acceptable responses It will take more time because there are less taps The less taps used the longer it takes to fill the pool That 1 tap can take up to 24 mins each 3 taps will take longer to fill the pool	Any statement referring to the same amount of water flowing from each tap is acceptable.

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

5.

5	(a)	2 mins 48 secs	P1	for an appropriate first step eg $700 \div 475 (=1.47..)$ or $475 \div [\text{time}] (= 4.16.. \text{ m/s})$ or $[\text{time}] \div 475 (= 0.24 \text{ s/m})$	[time] what candidate indicates as time of first race Units are not needed and can be ignored if given
	(b)	Statement	P1	for a complete method to find the required time eg $700 \div 475 \times [\text{time}] (=168)$ or $700 \div (475 \div [\text{time}]) (=168)$ or $[\text{time}] \div 475 \times 700 (=168)$	Allow calculation in stages and appropriate rounding.
			A1	cao	
			CI	eg takes less time Acceptable examples Quicker time Faster time Reduces my answer to part (a) Not acceptable examples It is an underestimate The amount of time could/may increase Laura goes faster	

Pearson Edexcel - Tuesday 12 June 2018 - Paper 3 (Calculator) Higher Tier

6.

10		10	P1	for start to a process to find the LCM of 20, 45 and 120 (= 360), eg $45 = 3 \times 3 \times 5$ or $20 = 2 \times 2 \times 5$ or $120 = 2 \times 2 \times 2 \times 3 \times 5$ or writes down at least 3 multiples of 45 and 120	Could be presented as complete prime factor trees for 45 or 120
			P1	(dep) for a process to find number of times/hour using their LCM, eg $3600 \div 360$ or $3600 \div 720$	Must use a common multiple. Working may be in minutes.
			A1	for 10 or 11	

Pearson Edexcel - Friday 7 November 2014 - Paper 2 (Calculator) Higher Tier

7.

13	(a)		65	5	M1 for splitting up the cross section into separate areas and a method to find the area of one part OR for splitting up the pool into smaller prisms and a method to find the volume of one small prism, e.g. a cuboid M1 (dep) for a complete method to find the area of the cross section [with correct dimensions] OR for a method to find the total volume of more than one correct prism M1 (dep) for a complete method to find the volume of the pool [with correct dimensions] (= 195) M1 for "195" $\times 1000 \div 50 (=3900)$ oe where "195" comes from a volume A1 cao
	(b)		C	1	B1 cao

Pearson Edexcel - Friday 13 June 2014 - Paper 2 (Calculator) Higher Tier

8.

6			2.15 pm	3	M1 for $240 \div 60 (=4)$ M1 for adding at least 3 of the 4 periods of time eg $20 \text{ (mins)} + "4 \text{ (hrs)}" + 25 \text{ (mins)} + 30 \text{ (mins)} (=5 \text{ h } 15 \text{ min})$ oe or 2.15 without units A1 for 2.15 pm 14 15 (h or pm) oe
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Pearson Edexcel - Tuesday 11 June 2013 - Paper 1 (Non-Calculator) Higher Tier

9.

17			1 hour 45 mins	6	<p>M1 for method to find volume of pond, eg $\frac{1}{2}(1.3 + 0.5) \times 2 \times 1 (= 1.8)$</p> <p>M1 for method to find the volume of water emptied in 30 minutes, eg $1 \times 2 \times 0.2 (= 0.4)$, $100 \times 200 \times 20 (= 400000)$</p> <p>A1 for correct rate, eg $0.8 \text{ m}^3/\text{hr}$, 0.4 m^3 in 30 minutes</p> <p>M1 for correct method to find total time taken to empty the pond, eg $"1.8" \div "0.8"$</p> <p>M1 for method to find extra time, eg 2 hrs 15 minutes – 30 minutes</p> <p>A1 for 1.75 hours, $1\frac{3}{4}$ hours, 1 hour 45 mins or 105 mins</p> <p>OR</p> <p>M1 for method to find volume of water emptied in 30 minutes, eg. $1 \times 2 \times 0.2 (= 0.4)$, $100 \times 200 \times 20 (= 400000)$</p> <p>M1 for method to work out rate of water loss eg. $"0.4" \times 2$</p> <p>A1 for correct rate, eg $0.8 \text{ m}^3/\text{hr}$</p> <p>M1 for correct method to work out remaining volume of water eg. $\frac{1}{2}(1.1 + 0.3) \times 2 \times 1 (= 1.4)$</p> <p>M1 for method to work out time, eg $"1.4" \div "0.8"$</p> <p>A1 for 1.75 hours, $1\frac{3}{4}$ hours, 1 hour 45 mins or 105 mins</p> <p>NB working could be in 3D or in 2D and in metres or cm throughout</p>
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Pearson Edexcel - Friday 14 June 2013 - Paper 2 (Calculator) Higher Tier

10.

6			4.8	4	<p>M1 for $60 \times 60 (=3600)$</p> <p>M1 for $15000 \div 20 (=750)$ or $20 \div 15000 (=0.00133..)$ or $"3600" \div 15000 (=0.24)$ or $15000 \div "3600" (=4.16..)$</p> <p>M1 for $"3600" \div (15000 \div 20)$ or $"3600" \times 20 \div 15000$ oe</p> <p>A1 cao</p>
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Pearson Edexcel - Thursday 28 February 2013 - Paper 1 (Non-Calculator) Higher Tier

11.

8			09 36	3	<p>M1 for listing 9, 18, 27, 36, 45, ... (at least 3 correct multiples with at most one incorrect) M1 for listing 12, 24, 36, 48, (at least 3 correct multiples with at most one incorrect) A1 for 09 36 or 9 36 (am)</p> <p>OR</p> <p>M1 for listing 9.09 9.18 9.27 9.36 ... (at least 3 correct times with at most one incorrect) M1 for listing 9.12 9.24 9.36 ... (at least 3 correct times with at most one incorrect) A1 for 09 36 or 9 36 (am)</p> <p>OR</p> <p>M1 for $9 = 3 \times 3$ or $12 = 2 \times 2 \times 3$ (could be in factor tree) M1 for $9 = 3 \times 3$ and $12 = 2 \times 2 \times 3$ (could be in a factor tree) A1 for 09 36 or 9 36 (am)</p> <p>SC B2 for 9 36 pm or (after) 36 (minutes) on the answer line</p>
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Pearson Edexcel - Thursday 8 November 2012 - Paper 2 (Calculator) Higher Tier

12.

5		$25 \div 50 = 0.5 \text{ h} = 30 \text{ min}$ $25 \div 60 = 0.416 \text{ h} = 25 \text{ min}$	5	3	<p>M1 for $25 \div 50$ or $\frac{60}{50} \times 25$ or 30 (min) or 0.5(h) or $25 \div 60$ or $\frac{60}{60} \times 25$ or 25 (min) or 0.41(6)(h) or 0.42 (h) M1(dep) '0.5' - '0.416' or '30' - '25' A1 cao</p> <p>OR</p> <p>M1 for $60 \div 25 (= 2.4)$ and $60 \div "2.4"$ or $50 \div 25 (= 2)$ and $60 \div "2"$ M1(dep) '30' - '25' A1 cao</p>
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Pearson Edexcel - Monday 11 June 2012 - Paper 1 (Non-Calculator) Higher Tier

13.

7	<p>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</p> <p>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</p> <p>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</p> <p>OR $20 = 2 \times 2 \times 5$ $24 = 2 \times 2 \times 2 \times 3$ $2 \times 2 \times 2 \times 3 \times 5 = 120$</p>	11:00 am	3	<p>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</p> <p>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</p> <p>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</p>
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Pearson Edexcel - Wednesday 9 November 2011 - Paper 3 (Non-Calculator) Higher Tier

14.

6	<p>Distance = $25 + 45 + 30 = 100$ Travel time = $100 \div 50 = 2$ 9 am + 2h + 3h</p> <p>OR $25 \div 50 + 45 \div 50 + 30 \div 50$ = 30 min + 54 min + 36 min = 120 min = 2 hours 9 am + 2h + 3h</p>	2 pm	4	<p>M1 adding 2 or 3 distances with at least 2 correct) M1 '100' \div 50 (= 2 hours) M1 $9 + 3 + '100 \div 50'$ oe A1 cao</p> <p>OR M1 for $\frac{25}{50}$ (= 30 min) or $\frac{45}{50}$ (= 54 min) or $\frac{30}{50}$ (= 36 min) M1 for adding 2 or 3 times (from at least 2 correct distances) (= 2 hours) M1 $9 + 3 + '30 + 54 + 36'$ oe A1 cao</p>
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OCR GCSE – Thursday 5 November 2020 – Paper 5 (Non-Calculator) Higher Tier

15.

6		6 with correct working	<p>5</p> <p>B2 for 40 [LCM] identified or M1 for multiples of 8 and 20 up to at least 40</p> <p>AND</p> <p>B2 for indicates 40, 80, 120, 160, 200, 240</p> <p>or B1 for [time =] 269 oe or 270 oe M1 for <i>their</i> time + 40 oe</p> <p>If 0 scored, SC1 for answer 6</p>	<p>"Correct working" requires evidence of at least B2 AND B1 or alternate convincing approach</p> <p>eg attempts to count in 40</p> <p>May be seen as clock times eg 0808, 0816, 0824,...</p> <p>8.20, 8.40, 9.00,.... condone 1 error in either list FT other values</p> <p>Accept also if starting from 0801</p> <p>Implies previous B2</p> <p>Accept as times [0800], 8.40, 9.20, 10.00, 10.40, 11.20, 12.00</p> <p>Condone [0801], 8.41, 9.21, 10.01, 10.41, 11.21, 12.01</p> <p>eg Accept 4 hours 30 mins</p> <p>For M1 accept 4 correct multiples of 40 listed condone 1 error FT other values</p> <p>Accept as times as above</p>
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OCR GCSE – Tuesday 21 May 2019 – Paper 4 (Calculator) Higher Tier

16.

4	(a)	11.37 [am]	<p>4</p> <p>B3 for 11.37 pm or B2 for listing the next 3 correct times of both buses. i.e.8.55, 9.13, 9.31 and 8.57, 9.17, 9.37 or B1 for listing the next 3 correct times of one bus i.e. 8.55, 9.13, 9.31 or 8.57, 9.17, 9.37</p> <p>Alternative method</p> <p>B3 for 3 [h] (must be sure 3 is not minutes) or B2 for [LCM=] 180 or answer 14 37 or 2 37 pm or M1 for [18=] 2×3^2 or [20=] $2^2 \times 5$ allow in a tree diagram etc or [LCM=] $180k$ ($k \neq 1$) or B1 for listing the next 3 multiples of 18 and 20 i.e. 36, 54, 72 and 40, 60, 80</p> <p>See appendix for other methods</p> <p>SC2 for answer 14 37 oe</p>
4	(b)	accept any correct assumption e.g. buses keep to the timetable or there are no delays or there are no changes to the timetable or they do not cancel any buses	<p>1</p> <p>see the appendix for other comments, if there is more than one comment mark the best one providing there are no incorrect comments</p>

OCR GSCE – Sample Papers – Paper 6 (Calculator) Higher Tier

17.

9		Alexander = 120 (minutes) Reiner = 180 (minutes) Wim = 90 (minutes)	4 2 AO1.3b 1 AO3.1d 1 AO3.3	<p>M1 for any two correct expressions, e.g. $r = 2w$, $a = w + 30$, $a + r + w = 390$</p> <p>M1 for equating one variable, e.g. $w + 30 + 2w + w = 390$ oe</p> <p>A1 for solving for one variable, e.g. $w = 90$ oe</p>	
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AQA GSCE – Monday 12 November 2018 – Paper 3 (Calculator) Higher Tier

18.

21	1(h) 20 (min) and 50 (min) or $1\frac{20}{60}$ (h) or $1\frac{1}{3}$ (h) or 1.33...(h) or $\frac{50}{60}$ (h) or $\frac{5}{6}$ (h) or 0.83...(h)	B1	oe Journey time(s) at 10.20 am
	$6 \times \text{their } 1\frac{1}{3}$ or 8	M1	oe Priya's distance at 10.20 am
	their $8 \div \text{their } \frac{50}{60}$ or 9.6 or $16.8 \div 8$ or 2.1	M1dep	oe Joe's speed in km/h Multiplier for distance comparison
	$16.8 \div \text{their } 9.6$ or 1.75(h) or 1(h) 45 (min) or 105 (min) or $16.8 \div 8 \times 50$ (+ 60) or $\frac{16.8 - \text{their } 8}{\text{their } 9.6}$ or $\frac{8.8}{\text{their } 9.6}$ or 0.91(6...)(h) or 0.917(h) or 0.92(h) or 55(min)	M1dep	oe Joe's total journey time Joe's journey time after overtaking Priya
	11.15 (am)	A1	oe eg quarter past 11 (in the morning)
	Additional Guidance		
	If 11.15 comes from correct method but with premature rounding eg $8 \div 0.83 = 9.64$ $16.8 \div 9.64 = 1.743$ h $1.743 \times 60 = 104.58$ minutes ie 11 : 14 : 58 so 11 : 15		B1M3A0
8 km implies		B1M1	
$16.8 \div 6$ or 2.8 with no further valid working		B0M0	

AQA GCSE – Thursday 2 November 2017 – Paper 1 (Non - Calculator) Higher Tier

19.

25	Alternative method 1		
	15 × 8 or 120 or 3 × 6 or 18	M1	oe total number of hours needed oe total number of hours worked by the 3 machines
	15 × 8 – 3 × 6 or 102	M1dep	oe total number of hours worked by the other 12 machines
	8.5	A1	
	Alternative method 2		
	3 × (8 – 6) or 3 × 2 or 6	M1	oe total number of hours not worked by the three machines
	their 6 ÷ 12 or 0.5	M1dep	oe that number divided by the other 12 machines
	8.5	A1	
	Alternative method 3		
	15 × 8 or 120 or 15 × 6 or 90	M1	oe total number of hours needed oe total number of hours worked in the first 6 hours
	$\frac{15 \times 8 - 15 \times 6}{12}$ or 2.5	M1dep	oe number of remaining hours divided by the other 12 machines
	8.5	A1	
	Additional Guidance		
	Note that 15 ÷ 6 is not a correct method to get 2.5 (unless simplified from 30 ÷ 12), so does not score		

AQA GCSE – Wednesday 8 November 2017 – Paper 3 (Calculator) Higher Tier

20.

12(a)	140 ÷ 50 or 2.8 or 140 ÷ 50 × 60 or 168	M1	oe
	2 (hours) 48 (minutes)	A1	258 (minutes) (after midday) implies M1A1
	4.18 (pm)	A1ft	oe ft their time in hours and minutes with M1 awarded
	Additional Guidance		
	140 ÷ 50 or 2.8 = 2 hours 80 minutes = 3 hours 20 minutes, Answer 4.50		M1A0A1ft
	140 ÷ 50 or 2.8 = 2 hours 8 minutes, Answer 3.38		M1A0A1ft
	140 ÷ 50 or 2.8 = 2 hours 80 minutes = 3 hours 20 minutes, Answer 4.5		M1A0A0
	140 ÷ 50 or 2.8, Answer 4.10		M1A0A0
2 hours 8 minutes implies attempt at 140 ÷ 50		M1	

12(b)	Valid statement	B1ft	eg the arrival time will be later it will be later time will be more ft their time in (a) eg it will be after 4.18pm
	Additional Guidance		
	It will be delayed		B1
	The arrival time will be increased		B1
	He will reach there late		B1
	The time will go up		B1
	It will go up		B1
	The journey will take longer so the arrival time is later		B1
	Take longer		B0
	Longer		B0
	Slower (restating question)		B0
	You won't get there as quick		B0
	Time will be longer		B0
	Journey will be longer		B0
'Longer' is referring to a time period rather than an arrival time			

AQA GCSE – Sample Paper 1 (Non - Calculator) Higher Tier

21.

17(a)	Alternative method 1			
	$15 \times \frac{4}{5}$ or 12 or $15 \times \frac{8}{6}$ or 20 or $\frac{4}{5} \times \frac{8}{6}$ or $\frac{32}{30}$ or $\frac{16}{15}$	M1	oe	
	their $12 \times \frac{8}{6}$ or their $20 \times \frac{4}{5}$ or their $\frac{16}{15} \times 15$	M1dep		
	16	A1		
	Alternative method 2			
	$4 \times 15 \times 8$ or 480	M1		
	their $480 \div 5 \div 6$	M1dep		
	16	A1		
	17(b)	If one person works at a slower rate the answer will be higher or If some of the people work at a faster rate the task will take less time to complete	B1	oe