

COMPOUND MEASURES

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

1.

24	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 - Monday 12 November 2018 - Paper 3 (Calculator) Foundation Tier

2.

24	(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 Allow calculation in stages and appropriate rounding.
			P1	for a complete process to find the required time eg $700 \div 475 \times [\text{time}] (= 168)$ or $700 \div (475 \div [\text{time}]) (= 168)$ or $[\text{time}] \div 475 \times 700 (= 168)$	
			A1	cao	
	(b)	Statement	C1	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 - Thursday 24 May 2018 - Paper 1 (Non-Calculator) Foundation Tier

3.

22	(a)	Estimated value	P1	for using a rounded value in a correct process eg $3000 \div 15$ or 15×8 or 20×8	Their rounded value must be used in a calculation Rounding may appear after a correct process eg $15.12 \times 8 = 120.96 \approx 100$ followed by eg $3069.25 \div 100$ Accept $3069.25 \div 15.12 \div 8$ oe
			P1	for a full process to find the number of days eg " $3000 \div 15 \div 10$ " (= 20) or " $3000 \div 15$ " $\div 8$ (= 25)	
	(b)	Explanation	A1	for a correct answer following through their rounded values	Refers to time taken
			C1	eg less days required or it doesn't affect the answer because I would still round 16.27 down to 15 (or up to 20)	

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

4.

9	(a)	62	M1 A1	for distance \div time eg $186 \div 3$ or $186 \div (3 \times 60)$ (=1.03..) cao	May use hours or minutes at this point
	(b)	232	M1 A1	for speed \times time eg 58×4 or $58 \times 4 \times 60$ (=13920) cao	

Pearson Edexcel - Wednesday 8 November 2017 - Paper 3 (Calculator) Foundation Tier

5.

21		648	M2	a complete method, eg $12.5 \times 1000 \div 19.3$
			[M1	for using volume = mass/density, eg $12500 \div 19.3$ (condone inconsistent units or incorrect conversions) may be implied by digits 647... or 648...]
			A1	for answer in range 647 to 648

Pearson Edexcel – Specimen 2 - Paper 1 (Non-Calculator) Foundation Tier

6.

23		500g	P1	$\frac{5}{8} \times 160$ (=20)
			P1	'20' $\times 25$
			A1	500 (or 0.5)
			B1	Correct units g (or kg)

Pearson Edexcel – Specimen 2 - Paper 2 (Calculator) Foundation Tier

7.

16		8	B1	cao
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Pearson Edexcel – Specimen 1 - Paper 1 (Non-Calculator) Foundation Tier

8.

21		4 m ²	<p>C1 substitution into formula eg $35 = \frac{140}{A}$</p> <p>A1 4 stated</p> <p>C1 (indep) units stated</p>
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Pearson Edexcel – Specimen 1 - Paper 3 (Calculator) Foundation Tier

9.

28		1.0625	<p>P1 for a complete process to find the density of liquid A, eg $\frac{19}{22} \times 1.1 (= 0.95)$</p> <p>P1 for a complete process to find the mass of liquid C, eg $5 \times 0.95 + 15 \times 1.1$</p> <p>P1 for a complete process to find the density of liquid C, eg $\frac{21.25}{20}$</p> <p>A1 cao</p>
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Pearson Edexcel – Sample Paper 1 (Non-Calculator) Foundation Tier

10.

24	(a)		48	<p>P1 start to process eg. $3 \times 80 (=240)$</p> <p>P1 '240' ÷ 5</p> <p>A1</p>
	(b)			<p>C1 eg. she may drive a different distance and therefore her average speed could be different</p>

OCR – Tuesday 03 November 2020- Morning - Paper 1 (Calculator) Foundation Tier

11.

12	(a)	18	2	M1 for $15 + 0.5 \times 6$ or better	Do not accept use of 0.5^2
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OCR November 09 November 2020- Morning (Calculator) Foundation Tier

12.

20		385 with correct working	6	<p>M2 for [mass of one panel =] $2.4 \times 1.2 \times 0.018 \times 750$ or $240 \times 120 \times 1.8 \times 0.750$ or M1 for figs 24 × figs 12 × figs 18 × figs 750 or $2.4 \times 1.2 \times 0.018$ or $240 \times 120 \times 1.8$</p> <p>AND</p> <p>B1 for 15 000 [kg] or 15 000 000g seen or <i>their</i> mass correctly converted to tonnes</p> <p>M1 for $\frac{\text{figs 15}}{\text{their mass}}$</p> <p>A1 for 385[...] to 387</p> <p>If 0 or B1 scored instead award SC2 for answer 385 with no or insufficient working or SC1 for answer 385[...] to 387 with no working</p>	<p>"Correct working" requires evidence of at least M2 AND B1 i.e. correct and consistent units used</p> <p>soi by 38.8 to 38.9 [kg] soi by 38 800 to 38 900 [g]</p> <p>soi by 0.0518 to 0.0519 [m³] soi by 51 800 to 51 900 [cm³] Assume <i>their</i> mass unit from M2, but do not assume from M1 only</p> <p>Accept any figure but not 2.4, 1.2, 1.8 and 750 for <i>their</i> mass For M1 accept one or more trial(s) of <i>their</i> mass × an integer in attempt to = <i>their</i> figs 15</p>
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OCR Tuesday 5 November 2019 – Morning (Calculator) Foundation Tier

13.

14		Robert with correct working and reason	4	<p>B1 for 6.5 hours or 6 ½ hours M1 for $760 \div 9$ implied by 84[.4] M1 for $559 \div \text{their } 6.5$ implied by 86</p> <p>Accept alternative method e.g B1 for 540 and 390 M1 for $760 \div 540$ implied by 1.407.. or 1.41 M1 for $559 \div 390$ implied by 1.43[3]</p>	<p>Accept correct working in comparable alternative units</p>
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14.

20		385 with correct working	6	<p>M2 for [mass of one panel =] $2.4 \times 1.2 \times 0.018 \times 750$ or $240 \times 120 \times 1.8 \times 0.750$ or M1 for figs $24 \times$ figs $12 \times$ figs $18 \times$ figs 750 or $2.4 \times 1.2 \times 0.018$ or $240 \times 120 \times 1.8$</p> <p>AND</p> <p>B1 for 15000 [kg] or 15000000g seen or <i>their</i> mass correctly converted to tonnes</p> <p>M1 for $\frac{\text{figs 15}}{\text{their mass}}$</p> <p>A1 for 385[...] to 387</p> <p>If 0 or B1 scored instead award SC2 for answer 385 with no or insufficient working or SC1 for answer 385[...] to 387 with no working</p>	<p>“Correct working” requires evidence of at least M2 AND B1 i.e. correct and consistent units used</p> <p>soi by 38.8 to 38.9 [kg] soi by 38800 to 38900 [g]</p> <p>soi by 0.0518 to 0.0519 [m³] soi by 51800 to 51900 [cm³] Assume <i>their</i> mass unit from M2, but do not assume from M1 only</p> <p>Accept any figure but not 2.4, 1.2, 1.8 and 750 for <i>their</i> mass For M1 accept one or more trial(s) of <i>their</i> mass \times an integer in attempt to = <i>their</i> figs 15</p>
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OCR Thursday 07 November 2019- Morning (Non-Calculator) Foundation Tier

15.

10		44	3	<p>M2 for $66 \div (15 \div 5) [\times 2]$ oe or M1 for $15 \div 5$ or $5 \div 15$ or 5×66 oe</p>	<p>Ignore units throughout May be implied by 22</p>
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OCR Tuesday 21 May 2019 – Morning (Calculator) Foundation Tier

16.

15	(a)	8 nfww	4	<p>M3 for $\frac{12}{1.5}$ or $\frac{12}{90} \times 60$ or $\frac{2}{1.5} \times 6$ or $\frac{120}{90} \times 6$ oe</p> <p>or</p> <p>M2 for $\frac{12}{90}$ or $\frac{2}{1.5}$ or $\frac{120}{90}$ oe</p> <p>OR</p> <p>B1 for 12 [as a distance]</p> <p>B1 for 1.5 or $1\frac{1}{2}$ [as a time]</p> <p>M1 for $(2 \times 6) \div 1.5$</p>	
	(b)	Correct reason	1	See appendix	

17.

16		527	2	M1 for 0.85×620
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OCR Tuesday 11 June 2019 – Morning (Calculator) Foundation Tier

18.

28	a	i	h^3 or 1 final answer	1		
		ii	f^6 final answer	1		
	b		$\frac{4}{a}$ or $4a^{-1}$ final answer	4	M1 for $2a \times 2a \times 2a$ soi by $8a^3$ M1 for $\frac{32a^2}{\text{their}(2a \times 2a \times 2a)}$ A1 for 4 as numerator or coefficient of a A1 for a as denominator	Their $2a \times 2a \times 2a$ must be algebraic and three dimensional
			g per mm^3 cao	1		Accept correct forms for 1 mark eg grams/ mm^3 or g mm^{-3} or $\frac{\text{g}}{\text{mm}^3}$ etc

OCR Monday 12 November 2018 – Morning (Calculator) Foundation Tier

19.

20	(a)		6	4	M3 for $\frac{2 \times 7.5 \times 10}{10 + 15}$ or M2 for speed = distance ÷ time correctly applied or M1 for 7.5×10 soi 75 or If 0 scored SC2 for answer 6.25	May be in stages: $7.5 \times 10 = 75 \rightarrow 75 \times 2 = 150 \rightarrow 10 + 15 = 25 \rightarrow 150 \div 25 [= 6]$ Mark overall process ignoring numerical errors Distances: 75, 150, 112.5, 187.5 m Times: 10, 20, 15, 25 s
	(b)		[Average] speed [may be] greater oe	1		Time is longer ... scores 0 Mark the best bit unless contradictory. E.g. It might have gone faster or slower. Do not accept "It (or distance) will be longer". Must go on to say "so the bee flies faster" oe Condone "It will be bigger"

OCR Thursday 7 June 2018 – Morning (Non Calculator) Foundation Tier

20.

17	a		Valid assumption	1	Such as 'he travelled at a constant speed'	See AG
	b		12	1		
	c		350	3	B1 7 km = 7000 m and M1 for their 7000/20 If 0 scored SC1 for 12000/58	B1 implied by 7000 seen Accept 7 as their 7000
	d		Valid explanation	1	Such as 'graph is steeper on the first part of the journey'	eg 'last part of graph is not as steep' see AG

21.

19	a		440	3	M2 for $165 \div 3 \times 8$ or M1 for 165 is $1 - \frac{5}{8}$ soi or for $165 \div 3$ soi If 0 scored, SC1 for answer 264	M1 implied by 55 or 275 seen (from $165 \div 5 \times 8$)
	b		Correct comment	1	Any statement that implies the assumption is that the rate of petrol consumption remains constant	e.g. Speed stays the same Same type of roads The car uses fuel at the same rate Does not get stuck in traffic Weather stays the same See AG

OCR Monday 6 November 2017– Morning (Calculator) Foundation Tier

22.

14	a	i	Valid explanation	1	Such as 'distance is time times speed'	Need to see 'multiply' oe See Appendix
		ii	$5 - x$	2	M1 for time to travel from A to C = 5[hours] soi	Must be seen in this part
		iii	$20(5 - x) = 100 - 20x$	1		
	b		78	4	M1 for $26x + 100 - 20x = 118$ M1 for their $6x = \text{their } 18$ M1 for $x = \frac{\text{their } 18}{\text{their } 6}$ soi	Simplifying their equation to $ax = b$ Simplifying their $ax = b$ to $x = \frac{b}{a}$

OCR Tuesday 13 June 2017 – Morning (Calculator) Foundation Tier

23.

22		4.653 to 4.655 or 4.65 or 4.7 or 5	5	<p>Volume of cuboid M1 for $90 \times 90 \times 150$ soi 1215000</p> <p>Volume of cylinder M1 for $\pi \times 45^2 \times 80$ soi 508680 to 509004</p> <p>Total volume M1 for <i>their</i> $1215000 + \text{their } 508938.1$ soi 1723680 to 1723938.1</p> <p>Find mass using density M1 for any of <i>their</i> volumes $\times 2.7$</p>	<p>Answers of 4.7 or 5 require supporting working</p> <p>Answers from values of π $\pi = 508938.0099$ $3.142 = 509004$ $3.14 = 508680$</p> <p><i>Their</i> volumes must be seen to come from the product of three relevant lengths</p> <p>Dependent on a calculated volume for cuboid, cylinder or total If total consists of one volume and one non-volume but is $\times 2.7$, final M1 scored</p>
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