

CONVERSIONS AND UNITS

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

1.

9	(a)	25	B1	for 25, accept answer in range 24 to 26	
	(b)	24	M1	for $40 \div 10 \times 6$	
			A1	cao	
	(c)	Comment	C1	(dep B1 or M1) ft for comment for their results, eg the two answers are quite close or answer to (b) is less than answer to (a) or the rule gives a smaller answer	

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

2.

1		3	B1	cao	
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Pearson Edexcel - Thursday 6 June 2019 - Paper 2 (Calculator) Foundation Tier

3.

4		1.756	B1	cao	
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Pearson Edexcel - Tuesday 11 June 2019 - Paper 3 (Calculator) Foundation Tier

4.

3		1500	B1	cao	
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Pearson Edexcel - Thursday 8 November 2018 - Paper 2 (Calculator) Foundation Tier

5.

3	(a)	4.56	B1	cao	Accept trailing zeros, eg 4.560
	(b)	7300	B1	cao	Accept trailing zeros, eg 7300.0

6.

5		$\frac{31}{100}$	B1	cao	
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7.

8		263.2	M1	for using the scale eg 14×18.8 or 14×18	
			A1	or for the digits 2632 or an answer of 263 cao	

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

8.

5	(a)	350	B1	cao	Accept trailing zeros eg 350.0	
	(b)	7.7	B1	cao		Accept trailing zeros eg 7.70
	(c)	320	B1	cao		Accept trailing zeros eg 320.0

Pearson Edexcel - Thursday 2 November 2017 - Paper 1 (Non-Calculator) Foundation Tier

9.

1	(a)		3.65	B1	cao
	(b)		2700	B1	cao

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

10.

20			1.52	M1 A1	for $20 \times 4.55 \div 60$ for 1.52 or 1.516(...)
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Pearson Edexcel – Specimen 2 - Paper 3 (Calculator) Foundation Tier

11.

1			4.5	B1	cao
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Pearson Edexcel – Specimen 1 - Paper 1 (Non-Calculator) Foundation Tier

12.

1			5.3(0)	B1	cao
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13.

10			No (supported)	P1 A1 C1	starts the process to convert one dimension converts at least one measurement correctly conclusion eg No, since the 40 cm > 14 inches
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Pearson Edexcel – Specimen 1 - Paper 3 (Calculator) Foundation Tier

14.

5		1.75l or 1750 ml	B1 for knowledge of 1 litre is 1000 millilitres P1 for adding their two amounts C1 for 1.75l or 1750 ml (must include units)
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OCR Thursday 05 November 2020- Morning (Non-Calculator) Foundation Tier

15.

2	(a)	(i)	3.5	1		Accept 3.50 or 3½
2	(a)	(ii)	1520	1		
2	(b)		8.7	2	B1 for 3 [cm] or 57 [mm] Or M1 for answer of 87 [mm]	

OCR Monday 11 November 2019 – Afternoon (Calculator) Foundation Tier

16.

2			1.6	2	B1 for 1520 or 0.08[0]	Accept 1.60 and 1.600
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OCR Thursday 6 June 2019 – Morning (Non-Calculator) Foundation Tier

17.

12			$5 \times 12 + 2$ <i>their</i> 62×2.5 oe Stating 2 correct comparable figures Alice is correct	M1 M1 M1 A1 Alt method M1 $157 \div 2.5$ M1 <i>their</i> $(157 \div 2.5) \div 12$ or $5 \times 12 + 2$ or 62 M1 Stating 2 comparable figures A1 Alice is correct	Implied by 62 Alice is correct	Condone 60×2.5 See table in APPENDIX for allowable figures
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OCR Tuesday 11 June 2019 – Morning (Calculator) Foundation Tier

18.

18		Poppy, Sesame, Pumpkin with correct comparable values shown	4	B3 for all 3 quantities seen <u>correct in comparable form</u> or B2 for 8.4×10^{-5} or 8.4×10^{-2} seen or seen <u>correct in comparable form</u> : <ul style="list-style-type: none"> pumpkin with poppy eg implied by [250 poppy =] 0.075 or pumpkin with sesame eg implied by [250 sesame =] 0.91 or B1 poppy and sesame seen <u>correct in comparable form</u> or [pumpkin =] 0.084 or 0.000 084 seen or [250 poppy =] 0.000 075 oe seen or [250 sesame =] 0.000 91 oe seen	Condone weights as answer Quantities given in the question (bold in table) need not be rewritten Comparable forms include: <table border="1"> <tr> <td colspan="3">In kilograms:</td> </tr> <tr> <td>Pop</td> <td>0.000 000 3</td> <td>3×10^{-7}</td> </tr> <tr> <td>Pum</td> <td>0.000 084</td> <td>8.4×10^{-5}</td> </tr> <tr> <td>Ses</td> <td>0.000 003 64</td> <td>3.64×10^{-8}</td> </tr> </table> <table border="1"> <tr> <td colspan="3">In grams:</td> </tr> <tr> <td>Pop</td> <td>0.000 3</td> <td>3×10^{-4}</td> </tr> <tr> <td>Pum</td> <td>0.084</td> <td>8.4×10^{-2}</td> </tr> <tr> <td>Ses</td> <td>0.003 64</td> <td>3.64×10^{-3}</td> </tr> </table> Must not be a mix of standard and ordinary form Accept consistent multiples for full marks. eg. 250 poppy = 0.075 and 250 sesame seeds = 0.91 May be all fractions with common denominator	In kilograms:			Pop	0.000 000 3	3×10^{-7}	Pum	0.000 084	8.4×10^{-5}	Ses	0.000 003 64	3.64×10^{-8}	In grams:			Pop	0.000 3	3×10^{-4}	Pum	0.084	8.4×10^{-2}	Ses	0.003 64	3.64×10^{-3}
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Pearson Edexcel – Sample Papers - Paper 3 (Calculator) Foundation Tier

19.

8		180	M1 For start to method e.g. $36 \div 4 (= 9)$ or 2×36 M1 For complete method to find no of cm in 1 yard or in 2 yards A1
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20.

16		20	M1 for conversion of km to metres or hours to minutes M1 for conversion of hours to seconds A1 cao
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OCR Wednesday 8 November 2017– Morning (Calculator) Foundation Tier

21.

6	(a)		5 : 2	2	B1 for 30 [.] 12 oe If 0 scored SC1 for 5 : 7 or 2 : 5	Condone same units in ratios B1 for 15 : 6 or 10 : 4 or 2.5 : 1 or 1 : [0].4 may miss ratio signs
	(b)		[0].28	2	B1 for 250 or [0].7 seen or 2500 and 700 or figs 28 in answer If 0 scored SC1 for [1:] 3.57[1...]	Condone answer 1 : [0].28 for B2
	(c)	(i)	5000	1		
		(ii)	50	2	M1 for <i>their</i> $5000 \div 2 \div 50$ oe	

AQA Tuesday 19 May 2020 – Morning (Non-Calculator) Foundation Tier

22.

4	68 cm	B1	
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23.

Q	Answer	Mark	Comments
22	2160	B1	may be implied by 240 or 10 800
	$\frac{5 \times \text{their } 2160}{9}$ or 5×240 or $10\,800 \div 9$ or 1200	M1	oe
	1473	A1	
	Additional Guidance		
	Accept 0.55 or 0.56 or better for $\frac{5}{9}$		
	eg $\frac{5}{9}(2160) + 273$ (no indication that they know to multiply by $\frac{5}{9}$) eg $\frac{5}{9} \times (2160) + 273$ eg 2130, $5 \times 2130 \div 9$		B1M0A0 B1M1A0 B0M1A0

AQA Monday 8 June 2020 – Morning (Calculator) Foundation Tier

24.

Q	Answer	Mark	Comments
10	1.8×1000 or 1800 or $1600 \div 1000$ or 1.6 or $1\frac{3}{4} \times 1000$ or 1750 or 1.75	M1	
	Shortest distance 1600 (metres) $(1\frac{3}{4}$ (kilometres)) Longest distance 1.8 (kilometres) with no incorrect working	A1	any indication eg allow 1800 (metres) for 1.8 (kilometres)
	Additional Guidance		
	Award M1 work even if not subsequently used		
	Correct order with no incorrect working		M1A1
	Correct order with incorrect working can score up to M1 eg 0.16 1.75 1.8 eg 1600 17500 18000		M1A0 M0A0
	1.6 or 1.75 with order incorrect		M1A0
	1800 or 1750 with order incorrect		M1A0

AQA Thursday 6 June 2019 – Morning (Calculator) Foundation Tier

25.

4	3270	B1	
	Additional Guidance		

AQA Thursday 6 June 2019 – Morning (Calculator) Foundation Tier

26.

16(a)	[4, 5]	B1	
	Additional Guidance		

16(b)	Correct ruled straight line from (-25, -50) to (25, 50)	B2	$\pm \frac{1}{2}$ small square ignore ends of line outside [-25, 25] B1 two correct points added to the table or at least two correct points plotted or correct line too short but crosses 2 horizontal centimetre squares
	Additional Guidance		
	The correct points in the table or on the graph may be outside [-25, 25] eg (100, 200) and (-100, -200) in the table		B1
	For B1, do not count a point as correct if another point has the same x-coordinate, otherwise ignore extra points that are incorrect		
	The B1 for points plotted cannot be implied by a line – you must see eg crosses or dots		
	Ignore incorrect points in the table if B1 or B2 gained elsewhere		

16(c)	Correct reading of C coordinate of intersection of their graph with the given graph	B2ft	ft their intersection from any line or curve $\pm \frac{1}{2}$ small square B1 line drawn horizontally from point of intersection to vertical axis or F coordinate of intersection given
	Additional Guidance		
	Their line does not intersect given line or they have no line		B0
	If their graph intersects given line at more than one point and they give all the C coordinates of the intersections		B1
	If their line is correct the answer should be approximately -25		
	If their line is correct the F coordinate should be approximately -12		
	Both their -25 and their -12 given eg correct line seen and (-25, -12) or (-12, -25)		B1

AQA Thursday 11 June 2019 – Morning (Calculator) Foundation Tier

27.

14	Alternative method 1		
	$3115 \div 6.23$ or 500	M1	3115×0.028 or 87.22
	their 500×0.028	M1dep	their $87.22 \div 6.23$
	14	A1	
	Alternative method 2		
	$6.23 \div 0.028$ or 222.5	M1	$6.23 \div 3115$ or 0.002 or $\frac{1}{500}$
	$3115 \div$ their 222.5	M1dep	$0.028 \div$ their 0.002 or $0.028 \div$ their $\frac{1}{500}$
	14	A1	
	Alternative method 3		
	$0.028 \div 6.23$ or 0.00449(...) or 0.0045 or $\frac{2}{445}$	M1	
	$3115 \times$ their 0.00449(...) or 3115×0.0045 or $3115 \times$ their $\frac{2}{445}$	M1dep	
	14	A1	
	Additional Guidance		
	500×0.028 and 14×0.028		M1M1A0
500×0.028 and 14^3		M1M1A0	
500×0.028^3		M1M0	

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

28.

1	7.8 cm	B1	
	Additional Guidance		

AQA Thursday 7 June 2018 – Morning (Calculator) Foundation Tier

29.

9	Alternative method 1		
	5 × 12 × 2.5 or 150 or 8 × 2.5 or 20	M1	oe eg 2.5 + 2.5 + 2.5 + 2.5 + 2.5 + 2.5 + 2.5 + 2.5
	5 × 12 × 2.5 + 8 × 2.5 or 150 + 20	M1dep	
	170	A1	
	Alternative method 2		
	5 × 12 + 8 or 68	M1	
	their 68 × 2.5	M1dep	
	170	A1	
	Alternative method 3		
	[5.66, 5.67] × 12 or [67.92, 68.04] or [5.66, 5.67] × 2.5 or [14.15, 14.175]	M1	oe
	[5.66, 5.67] × 12 × 2.5 or [169.8, 170.1]	M1dep	oe
	170	A1	
	Additional Guidance		
	Use of 5.8 is an incorrect method eg 5.8 × 12 = 69.6 and 69.6 × 2.5 = 174		MOM0A0

AQA Tuesday 12 June 2018 – Morning (Calculator) Foundation Tier

30.

4	1200 cm	B1	
	Additional Guidance		

AQA Thursday 2 November 2017 – Morning (Non-Calculator) Foundation Tier

31.

2	75	B1	
	Additional Guidance		

AQA Thursday 2 November 2017 – Morning (Non-Calculator) Foundation Tier

32.

19	Method for equating gallons to litres beyond 2 gallons = 9 litres	M1	eg 9 ÷ 2 or 4.5 17 × 9 or 153 9 × 2 or 18 9 × 8 or 72 17 ÷ 2 or 8.5
	Fully correct method that would lead to the correct answer	M1dep	eg 9 ÷ 2 × 17 their 4.5 × 17 their 153 ÷ 2 their 18 × 4 + their 4.5 their 72 + their 4.5 their 8.5 × 9
	76.5	A1	
	Additional Guidance		
	2 gallons = 9 litres 4 gallons = 18 litres 6 gallons = 36 litres (error with working not shown) 8 gallons = 45 litres 45 + 45 + 4.5 = 94.5		M1M0A0
	2 gallons = 9 litres 9 + 9 = 18 so 4 gallons = 18 litres 18 + 9 = 36 so 6 gallons = 36 litres (method correct) so 8 gallons = 45 litres 45 + 45 + 4.5 = 94.5		M1M1A0

33.

17a	Alternative method 1		
	$1.8 \times -40 + 32$ or -72	M1	oe eg $1.8(-40) + 32$
	$1.8 \times -40 + 32 = -40$ or $1.8 \times -40 = -72$ and $-72 + 32 = -40$	A1	oe eg $1.8(-40) + 32 = -40$ Full working must be seen oe eg $1.8 \times -40 = -72$ and $-40 - 32 = -72$
	Alternative method 2		
	$\frac{-40 - 32}{1.8}$ or -72	M1	
	$\frac{-40 - 32}{1.8} = -40$ or $-40 - 32 = -72$ and $-72 + 1.8 = -40$	A1	Full working must be seen oe eg $-40 - 32 = -72$ and $-40 \times 1.8 = -72$
	Alternative method 3		
	$F = 1.8F + 32$ and $F - 1.8F = 32$ or $0.8F = -32$	M1	Forms equation in one variable and collects terms correctly using any letter oe eg $1.8F - F = -32$ or $-0.8F = 32$
	$(F =) -32 \div 0.8$ and $F = -40$	A1	Full working must be seen oe eg $(F =) 32 \div -0.8$ and $F = -40$
	Additional Guidance		
	Ignore units		
	72 does not imply M1		
	Only $-72 + 32 = -40$		M1A0

17b	No and 5 or No and correctly evaluated counter example	B1	
	Additional Guidance		
	No, anything between -17°C and 0°C is positive in Fahrenheit		B1
	No, anything between 0°F and 32°F is negative in Celsius		B1
	Unless the range from -17°C to 0°C is given, then the counter example must be evaluated correctly		
	No because 1.8×-15 is -27 , and $32 - 27 = 4$		B0
	Any temperature in Celsius between $-17\frac{7}{9}^{\circ}\text{C}$ and 0°C can be used as a counter-example eg1 $1.8 \times -10 + 32 = 14$ so No eg2 $1.8 \times -1 + 32 = 30.2$ so No		B1 B1
	No because 14°F is -10°C		B1
	Accept No because $-10 = 14$		B1
	No because -15 is positive in Fahrenheit		B0

AQA Wednesday 8 November 2017 – Morning (Calculator) Foundation Tier

34.

4	capacity	B1	
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AQA Thursday 25 May 2017– Morning (Non-Calculator) Foundation Tier

35.

19(a)	$96 \div 8$ or 12 or $8 \times 12 = 96$ or 96×5 or 480 or $96 \div 8 \times 5$ or $8 \div 5$ or 1.6 or $\frac{8}{5}$ or $5 \div 8$ or 0.625 or $\frac{5}{8}$	M1	oe
	60	A1	
	Additional Guidance		
	Build up method must be complete at least as far as, and must include, 96, but allow one error in the build up of 5s (oe) for M1 eg 8 16 24 32 40 48 56 64 72 80 88 96 5 10 15 20 25 30 35 45 50 55 60 65	M1 A0	

19(b)	$\frac{y}{x} = \frac{5}{8}$ or $\frac{x}{y} = \frac{8}{5}$ or $8y = 5x$ or $\frac{5x}{8}$ or $0.625x$ or $(x =) \frac{8y}{5}$ or $(x =) 1.6y$ or $y=kx$ and $k = \frac{5}{8}$ or $8 \div 5$ incorrectly evaluated and then $y = \frac{x}{\text{their incorrect evaluation}}$	M1	oe
	$y = \frac{5x}{8}$	A1	oe in form $y = f(x)$ eg $y = 0.625x$ or $y = \frac{x}{1.6}$ or $y = 5x \div 8$ or $y = x \div (8 \div 5)$ or $y = x \div 8 \times 5$
	Additional Guidance		
	$y = \frac{5}{8} \times x$ or $y = \frac{x}{8} \times 5$ or $y = x \div 1.6$		M1A1
	$(y =) \frac{x5}{8}$ or $(y =) x \frac{5}{8}$ or $y = \frac{5}{8}$ of x		M1A0
	Condone units for M1 only		
Do not ignore further work eg $y = x \div (8 \div 5)$ then $y = x \div 8 \div 5$		M1A0	

AQA Thursday 8 June 2017– Morning (Calculator) Foundation Tier

36.

1	metres	B1	
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AQA Thursday 8 June 2017– Morning (Calculator) Foundation Tier

37.

14	Alternative method 1		
	70×2.2 or 154	M1	
	their $154 \div 14$ or $11 \times 14 = 154$	M1dep	$70 \times 2.2 \div 14$ or is M1M1dep
	11	A1	
	Alternative method 2		
	$14 \div 2.2$ or 6.36... or 6.4 or $2.2 \div 14$ or 0.157... or 0.16	M1	
	$70 \div$ their 6.36 or $70 \times$ their 0.157 or 11.006... or 10.9375 or 10.99	M1dep	
	11	A1	
	Additional Guidance		
	$14 \div 2.2 = 6.3$ and $70 \div 6.3 = 11.1$		M1M1depA0
	Only $70 \div 6.3 = 11.1$		M0M0depA0
	Only $70 \div 6.4 (= 10.9375)$		M1M1depA0
	eg 10.9375 \rightarrow answer 11		M1M1dep A1
	Only $70 \div 14$ or 5		M0
$70 \div 14 = 5$ and 5×2.2		M1M1dep	
$70 \times 2.2 = 154$, $154 \div 14 = 11$, 11×70 Answer 770 (11 seen)		M1M1depA0	
$70 \times 2.2 = 154$, $154 \div 14 \times 70$ Answer 770		M1M0depA0	

AQA Sample Paper 1– Morning (Non-Calculator) Foundation Tier

38.

1	370	B1	
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