

Practice Test 2F-3F (Set 10) – Foundation tier mark scheme

Question	Working	Answer	Mark	Notes
1	(a)	$(8 \times 0.58) (= 4.64)$		M1 for a method to work out the cost of 8 pencils
		$23.62 - (8 \times 0.58) (= 18.98)$ or $23.62 - ('4.64') (= 18.98)$		M1 for a method to work out the cost of 13 rulers
		£1.46	3	A1
	(b)	$15 \div 0.62 (= 24.193\dots)$ or 24 or 14.88		M1
		$15 - '24' \times 0.62$ or $15 - '14.88'$ or $(24.1(935\dots) - 24) \times 0.62$ or $0.193(548\dots) \times 0.62$		M1 for a complete method
		£0.12	3	A1
				Total 6 marks

Question	Working	Answer	Mark	Notes
2	(a)	-8, -5, 0, 1, 3	1	B1
	(b)	2.082, 2.28, 2.5, 2.805, 2.85	1	B1
	(c)	14	1	B1
	(i)			
	(ii)	19	1	B1
				Total 4 marks

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Question	Working	Answer	Mark	Notes
3	$\frac{3}{5} \times (12481 - 8906) (=2145)$ or $1 - \frac{3}{5} (= \frac{2}{5})$ and $12481 - 8906 (=3575)$		4	M2 If not M2 then award M1 for either $12481 - 8906 (=3575)$ or $1 - \frac{3}{5} (= \frac{2}{5})$
	$3575 - "2145"$ or $\frac{2}{5} \times "3575"$			M1 dep
		1430		A1
				Total 4 marks

Question	Working	Answer	Mark	Notes
4	$3.5 + 5.75 + 6.5 + 6.25 + 8 (=30)$ or $3.5 \times 8 (=28)$ or $5.75 \times 8 (=46)$ or $6.5 \times 8 (=52)$ or $6.25 \times 8 (=50)$ or $8 \times 8 (=64)$		4	M1 (allow one error in sum to 30)
	"30" $\div 5 (=6)$ or "30" $\times 8 (=240)$ or "28" + "46" + "52" + "50" + "64" (=240)			M1 Dep on M1 and if adding values, must be 5 values with intention to add
	"6" $\times 8$ or "240" $\div 5$			M1 dep
		48		A1
				Total 4 marks

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Question		Working	Answer	Mark	Notes
5	(a)		Mweru	1	B1
	(b)		six thousand four hundred and five	1	B1
	(c)		69 000	1	B1
	(d)	5299 × 5.5 = 29 144.5 or 29 500 ÷ 5299 = 5.567... or 29 500 ÷ 5.5 = 5363.63...		2	M1 for a relevant calculation and answer (rounded or truncated to 2 sf or better)
			yes/no with correct figures and reason		A1 correct figures and a reason that refers to (Lake) Malawi (or 29 500) or $5\frac{1}{2}$ refers back to $\frac{1}{2}$ (or 5.5) or refers to (Lake) Albert (or 5299)
					Total 5 marks

Question		Working	Answer	Mark	Notes
6	(a)		49.876(41697...)	2	B2 If not B2 then award B1 for $\frac{125}{3}$ or $\frac{7.5}{0.18}$ or 8.2(0....)
	(b)		50	1	B1 ft from (a) provided 2 or more sig figs
					Total 3 marks

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Question	Working	Answer	Mark	Notes
7	(a) e.g. $1190 \times \frac{5}{7}$ oe (= 850) or $1190 \times 0.71(42857143)$ $1190 \times \frac{2}{7}$ oe (= 340) or $1190 \times 0.28(57142857)$			M1 for method to calculate cost for Calvin or cost for Jenny
	e.g. $1190 \times \frac{5}{7} - 1190 \times \frac{2}{7}$ oe or '850' – '340'			M1 for a complete method to calculate the difference in cost
		£510	3	A1
	(b) e.g. 3500×0.12 oe (= 420) or 3500×0.88 oe (= 3080)			M1 for a correct method to find 12% or 88% of 3500
	e.g. $(3500 \times 0.88) \div 220$ or $(3500 \div 220) \times 0.88$ or $(3500 - '3500 \times 0.12') \div 220$ or $(3500 - '420') \div 220$ or '3080' $\div 220$ oe			M1 for a complete method
		14	3	A1
Total 6 marks				

Question	Working	Answer	Mark	Notes
8	$360 \div 24$ $(n - 2)180 = (180 - 24)n$		2	M1 A fully correct method to find the number of sides of the polygon or correct use of formula with use of 24
		15		A1
Total 2 marks				

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Question	Working	Answer	Mark	Notes
9	$\pi \times 7^2 \times 20 (= 3078.76\dots)$ or 980π			M1 for complete method to find volume
		3080	2	A1 for answer in range 3077.2 – 3080
				Total 2 marks

Question	Working	Answer	Mark	Notes
10	$95 \times 8 + 105 \times 12 + 115 \times 15 + 125 \times 10 + 135 \times 3 (= 5400)$ or $760 + 1260 + 1725 + 1250 + 405 (= 5400)$			M2 for at least 4 correct products added (need not be evaluated) or If not M2 then award: M1 for consistent use of value within interval (including end points) for at least 4 products which must be added or correct midpoints used for at least 4 products and not added
	'5400' ÷ '48'			M1 dep on at least M1 Allow division by their Σf provided addition or total under column seen
		112.5	4	A1 oe accept 112 or 113 from correct working Accept 112.5 with no working Do not accept 112 or 113 with no working
				Total 4 marks

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Question		Working		Answer		Mark	Notes
11		$12 \times 8 \times 5 (= 480)$			3	M1	
		"480" $\times 0.7$				M1	dep
			336			A1	
							Total 3 marks

Question		Working		Answer		Mark	Notes
12		$0.08 \times 170\,000 (=13600)$ or $0.92 \times 170\,000 (=156400)$				M1	oe eg $170\,000 \div 12.5$
		e.g. $0.92 \times (0.92 \times "156400")$				M1	(dep)for a complete method
			132377	3		A1	or 132376.96
							(SCB2 for $170\,000 \times 0.924 (=121786.810)$) (SCB1 for $170\,000 \times 0.24 (=40\,800)$ or $170\,000 \times 0.76 (=129\,200)$ or $170\,000 \times 1.08 (= 183\,600)$ or $170\,000 \times 1.08^3 (= 214151)$ or an answer of 129 200 or an answer of 214 151 – 214151.1(0))
							Total 3 marks

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Question	Working	Answer	Mark	Notes	
13	(a)	$4 \times 120 (= 480)$		M1	
		e.g. $120 \div 2 \times 5 (= 300)$ or $120 \times 0.4 \times 7 (= 336)$ or $(120 - '60' - '48') \times 8 (= 96)$ or $120 \times 0.1 \times 8 (= 96)$		M1 for a method to find the income for one of the selling prices	
		e.g. $(120 \div 2 \times 5) + (120 \times 0.4 \times 7) + ((120 - '60' - '48') \times 8) (= 732)$ or $(120 \div 2 \times 5) + (120 \times 0.4 \times 7) + (120 \times 0.1 \times 8) (= 732)$ or $'300' + '336' + '96' (= 732)$		M1 for a complete method to find the total income	
		e.g. $\frac{'732' - '480'}{'480'} \times 100$ or $'252' \div '480' \times 100$ or $\left(\frac{'732'}{'480'} \times 100\right) - 100$ or $152.5 - 100$ or $\left(\frac{'732'}{'480'} - 1\right) \times 100$ or 0.525×100		M1 for a complete method to find the percentage profit	
			52.5	5	A1 accept 53
	(b)	e.g. $1 + 0.2 (= 1.2)$ or $100(\%) + 20(\%) (= 120(\%))$ or $\frac{15}{120} (= 0.125)$ oe			M1
		e.g. $15 \div 1.2$ or $15 \div 120 \times 100$ or $15 \times 100 \div 120$			M1 dep
			12.5(0)	3	A1 accept (£)12.5, (£)12.50p, 1250p if the £ sign is crossed out
					Total 8 marks

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Question	Working	Answer	Mark	Notes
14	angle DBC (or DBC) = $(180 - 116) \div 2$ (=32)		5	M1 angles may be seen on diagram
	angle ADB = $180 - (90 - "32") - 55$ (=67) or angle ADB = $360 - 116 - "32" - 55 - 90$ (=67)			M1 dep
	$x = 360 - 116 - "67"$ (= 177)			M1 dep
		177 with reasons		A2 for 177 and full reasons base angles in an isosceles triangle are equal angles in a triangle add up to 180o angles at a point add up to 360o If not A2 then A1 for 177 with 1 correct reason (SCB1 dep on M1 for a correct reason explicitly linked to their correct method)
				Total 5 marks

Question	Working	Answer	Mark	Notes
15 (a)	$\frac{15}{6}$ or $\frac{6}{15}$ or $\frac{4.2}{6}$ or $\frac{6}{4.2}$ oe 2.5 or 0.4 or 0.7 or 1.4(2857.....)			M1 for a correct scale factor, accept ratio notation eg 6 : 15
		10.5	2	A1 oe
(b)	$19.5 \div 2.5$ or 19.5×0.4 oe or $4.2 \times \frac{19.5}{(a)}$			M1 If using DF ft their answer from part (a)
		7.8	2	A1 oe
				Total 4 marks

Practice Test 2F-3F (Set 10) – Foundation tier mark scheme

Question	Working	Answer	Mark	Notes
16	(a)	$\frac{25}{6}$ eg 15 km/h or $\frac{25}{6}$ m/sec or 0.25 km/min or $\frac{15}{4}$ oe $\frac{10}{3}$ eg 12 km/h or $\frac{10}{3}$ m/sec or 0.2 km/min or $\frac{9}{3}$ oe	1	B1 e.g. before as gradient is steeper or before as speed before is 15 km/h speed after is 12 km/h or before as she goes over 11(allow 11-12) km in $\frac{3}{4}$ hour but only goes 9 km in $\frac{3}{4}$ hour after oe NB: any figures given must be accurate if they haven't used 'steeper' oe
	(b)		2	B2 If not B2 then B1 for a line from (12:00, 24) to (12:45, 24) to (14:15, 0) or for a line from (t, 24) to (t + 1.5, 0) or for a time of 1.5 hours (oe) seen
	(c)	1h 45m + 1h 30m or 1 + 0.75 + 1.5 or 3h 15m or 3.25h or 195 m oe		M1 ft from their graph for total time when cycling
		$(24 \times 2) \div 3.25$ oe eg $(48 \div 195) \times 60$		M1 ft dep on M1 for full method
		14.8	3	A1 awrt 14.8
				Total 6 marks

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Question	Working	Answer	Mark	Notes
17	$0.5 \times 6 \times 6 (=18)$		5	M1 For area of triangle, or may use $\frac{1}{2} \times 6 \times 6\sqrt{2} \sin 45$ or $\frac{1}{2} \times 6\sqrt{2} \times 3\sqrt{2}$ oe
	$(d 2 =) 62 + 62 (=72)$ or $\frac{AC}{(\sin 90)} = \frac{6}{\sin 45}$			M1
	$\sqrt{6^2 + 6^2} (= \sqrt{72} = 6\sqrt{2} = 8.4(85\dots)$ or 8.5) or $AC = \frac{6(\sin 90)}{\sin 45} = 6\sqrt{2} = 8.4(85\dots)$ or 8.5) oe			M1
	$0.5 \times \pi \times \left(\frac{"8.48.."}{2}\right)^2 (= 9\pi$ or 28....)			M1
		46.3		A1 for 46.2 – 46.3
				Total 5 marks

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Question	Working	Answer	Mark	Notes
18	e.g. $30 \times 26.8 (= 804)$ or $13 \times 25 (= 325)$ or $(26.8 - 25) \times 30$ or 1.8×30			M1 for finding the total marks for the boys or the total test marks
	e.g. $(30 \times 26.8 - 13 \times 25) \div (30 - 13)$ (= 28.1764...) or $(‘804’ - ‘325’) \div (30 - 13)$ (= 28.1764...) or $(‘804’ - ‘325’ \div 17)$ (= 28.1764...) or $((26.8 - 25) \times 30) \div 17 + 25$ $(= 28.1764...)$ or $‘1.8’ \times 30 \div 17 + 25$ (= 28.1764...)			M1 for a complete method to find the mean mark for the girls
		28.2	3	A1 accept 28.15 – 28.2 (accept without working) (Accept 28 from complete working)
				Total 3 marks

Question	Working	Answer	Mark	Notes
19	$(x) \times 1000$ or $(x) \div 60$ or $(x) \div 60 \div 60$ or $(x) \times 1000 \div 60$ oe			M1 for at least one of $\times 1000$ or $\div 60$ or $\frac{5}{18}$ oe
	$x \times \frac{1000}{60 \times 60}$ oe			M1 (dep) for a complete correct method
		$\frac{5}{18}x$	3	A1 accept $0.2\dot{7}x$ or $0.2\bar{7}x$ or $\frac{x}{3.6}$ or $\frac{1}{3.6}x$
				Total 3 marks

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Performance data for Practice Test 2F-3F (Set 10)

Edexcel averages: scores of candidates who achieved grade:

Qn	Mean score	Max score	Mean %	ALL	5	4	3	2	1	U
Q01	4.89	6	82	4.89	5.72	5.51	5.16	4.46	2.87	0.73
Q02	3.24	4	81	3.24	3.84	3.65	3.36	2.82	2.17	1.27
Q03	3.13	4	78	3.13	3.88	3.79	3.43	2.53	1.25	0.33
Q04	3.01	4	75	3.01	3.73	3.53	3.22	2.47	1.56	0.49
Q05	3.45	5	69	3.45	4.15	3.84	3.44	3.06	2.56	1.87
Q06	2.00	3	67	2.00	2.55	2.35	2.05	1.73	1.11	0.37
Q07	3.83	6	64	3.83	5.70	5.24	4.05	2.22	0.63	0.09
Q08	0.98	2	49	0.98	1.54	1.34	1.01	0.56	0.14	0.00
Q09	0.96	2	48	0.96	1.70	1.45	0.96	0.30	0.04	0.00
Q10	1.78	4	45	1.78	3.47	2.70	1.60	0.56	0.08	0.00
Q11	1.30	3	43	1.30	2.45	1.83	1.18	0.56	0.26	0.07
Q12	1.12	3	37	1.12	2.08	1.59	1.03	0.53	0.18	0.02
Q13	2.58	8	32	2.58	4.32	3.32	2.46	1.61	0.68	0.15
Q14	1.57	5	31	1.57	3.21	2.35	1.39	0.47	0.12	0.01
Q15	1.17	4	29	1.17	2.82	1.78	0.85	0.27	0.05	0.00
Q16	1.39	6	23	1.39	2.55	1.88	1.28	0.69	0.28	0.04
Q17	0.98	5	20	0.98	2.74	1.44	0.58	0.16	0.02	0.00
Q18	0.37	3	12	0.37	1.10	0.52	0.21	0.04	0.02	0.01
Q19	0.31	3	10	0.31	0.76	0.42	0.22	0.09	0.03	0.00
Total	38.06	80	48	38.06	58.31	48.53	37.48	25.13	14.05	5.45

Suggested grade boundaries

1MA1 Practice Tests (Set 10)			9	8	7	6	5	4	3	2	1
1F	Foundation tier	Paper 1F					60	51	42	30	18
2F/3F	Foundation tier	Paper 2F/3F					53	43	31	20	11
Total	Foundation tier						113	94	73	50	29

(Marks for papers 1F, 2F/3F are each out of 80.)