

Practice Test 2F-3F (Set 11) – Foundation tier mark scheme

1	(c)	e.g. $\frac{65}{100} \times 720$, 0.65×720 , $720 \div 100 \times 65$ oe		2	M1	
			468		A1	Total 2 marks

2		1200 \div 45 (=26.66..) 1200 – (“26” \times 45)	30	3	M1 M1 dep A1	or 26 x 45 (=1170)
						Total 3 marks

3	(d)	$\frac{9}{20} = 0.45$ or $\frac{4}{9} = 0.44\dots$		2	M1	OR 4 out of 5 numbers in the correct order OR correct reverse order
			40.5%, 0.427, 0.43, $\frac{4}{9}$, $\frac{9}{20}$		A1	oe
						Total 2 marks

4	(a)	4.25×0.08 (= 0.34) oe		3	M1	M2 for 4.25×1.08 oe
		$4.25 + “0.34”$			M1	
			4.59		A1	SC: B1 for 4.25×0.92 (= 3.91) oe

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5	(a)	$360^\circ - (90^\circ + 90^\circ + 140^\circ)$ or $2 \times (180^\circ - 90^\circ - 70^\circ)$	40°	2	M1 A1	or $180 - 140$ or $90 + 90 + 140 + x = 360$
Total 2 marks						

6		P(mint =) $1 - (0.35 + 0.32 + 0.12)$ (= 0.21) P(strawberry or mint =) $0.32 + "0.21"$	0.53 oe	3	M1 M1 A1	Or a correct equation summing to 1 Dep Allow 0.53/1
Total 3 marks						

7	(a)		7	1	B1	
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8	(a)	$\frac{40.194}{8.76}$	4.5883(56164)	2	M1 A1	40.194 or 8.76 seen or implied by 4.588 At least 4 digits reqd after decimal point.
	(b)		4.6	1	B1ft	For 4.6 or ft from (a) if at least 3 s.f.
Total 3 marks						

9	(a)		13.5	1	B1	
	(b)	$16.24 \div 2.03$ (= 8) reading from graph from their "8"	85 → 90	3	M1 M1 dep A1 ft	Dependent on 1 st M1 if not 85 → 90
Total 4 marks						

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10	(minutes =) $35 + 15 (= 50)$ or (hours =) 5	5 hours 50 minutes	2	M1 A1	Accept 4 hours and 110 minutes oe
					Total 2 marks

11	(A =) $\frac{1}{5} \times 75 (= 15)$ oe or $\left(1 - \frac{1}{5}\right) \times 75 (= 60)$ oe		3	M1
	$\frac{75 - "15"}{2} (= 30)$ oe or $\frac{"75" - 15 - 4}{2} (= 28)$ oe or $\frac{"75" - 15 + 4}{2} (= 32)$ oe			M1 workings could be seen in an equation
		15, 32, 28		A1
				Total 3 marks

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13		$55 \div (6 + 3 + 2) \{= 5\}$ $(6 \times "5") - (2 \times "5")$	20	3	M1 M1 A1	6 2 or $\frac{6}{11} \times 55$ or $\frac{2}{11} \times 55$ or M2 for Won = 30 and Lost = 10
Total 3 marks						

14		$150 \div 6 (= 25)$ or $420 \div 6 (= 70)$ or $170 \div 6 (= 28.333...)$ or $95 \div 6 (= 15.83...)$	18	4	M1	Ingredients for 1 pie
		$755 \div "25" (= 30.2)$ and $1265 \div "70" (= 18.07...)$ and $685 \div "28.333..." (= 24.176...)$ and $950 \div "15.83..." (= 60)$			M2 dep	M2 for calculations of all 4 ingredients If not M2 then M1 for 1 correct calculation cao (must be an integer)
		Alt: $755 \div 150 (= 5.0333...)$ or $1265 \div 420 (= 3.0119...)$ or $685 \div 170 (= 4.029...)$ or $950 \div 95 (= 10)$	18		A1	M2 for calculations of all 4 ingredients. These values do not have to be integers. If not M2 then M1 for 1 correct calculation cao (must be an integer) 18.07 .. as a selected answer = M3 A0 Correct answer is <u>not</u> dependent on M3
		$"5" \times 6 (= 30)$ and $"3" \times 6 (= 18)$ and $"4" \times 6 (= 24)$ and $"10" \times 6 (= 60)$			M1	
Total 4 marks						

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15		$\frac{60000000}{0.08}$ or 750000000 oe (e.g 0.75×10^9)	7.5×10^8	2	M1 A1	M1 for 60000000 or 0.08
						Total 2marks

16	(b)	e.g. $720 = 2 \times 360 = 2 \times 2 \times 180$ or $720 = 3 \times 240 = 3 \times 3 \times 80$ etc		3	M1	At least 2 correct stages in prime factorisation
		2, 2, 2, 2, 3, 3, 5			M1	condone inclusion of 1 (may be a fully correct factor tree or ladder)
			$2 \times 2 \times 2 \times 2 \times 3 \times 3 \times 5$		A1	dep on M2, accept $2^4 \times 3^2 \times 5$

17	(b)	33×12 or $\frac{1}{2} \times 33 \times 12 \times 2$		2	M1 A1	
			396			Total 2marks

18		150000×0.82^3		3	M2 A1	If not M2 then M1 for 1st year e.g $150000 \times 0.82 \{= 123000\}$ or $150000 \times 0.18 \{= 27000\}$ SC B1 for $150000 \times 1.18 \{= 177000\}$ or $150000 \times 1.18^3 \{= 246454.8\}$ or $150000 \times 0.54 \{= 81000\}$ or $150000 \times 0.46 \{= 69000\}$ Accept 82705.2
			82705			Total 3 marks

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19			8.4×10^5	1	B1	
						Total 1 mark

20	(b)	$4y - y \leq 8 + 13$		2	M1	Arranging y 's on one side and the numbers on the other side. (allow $4y - y = 8 + 13$ oe or $4y - y < 8 + 13$ oe or $4y - y > 8 + 13$ oe or $4y - y \geq 8 + 13$ oe) Allow $y \leq 21/3$
			$y \leq 7$		A1	
						Total 2 marks
						Total 3 marks

21	(c)		5	1	B1	
						Total 5 marks

22		$22 \times 60 \times 60 (= 79\,200)$ oe or $22 \div 1000 (= 0.022)$ oe		3	M1	for converting from m/s to m/h or from m to km	M2 for 22×3.6 oe
		$22 \times 60 \times 60 \div 1000$ oe			M1	for a complete method	
			79.2		A1	oe, dep on at least M1	
							Total 3 marks

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23	(b)	$\frac{1}{6} = \frac{5}{30}$ oe or $5 \times 6 (= 30)$		2	M1
			18		A1
					Total 2marks

24	(a)	$\frac{13+8+8+6+5}{2}$ or $\frac{(13+8+8+6+5)+1}{2}$ or $\frac{40}{2}$ or $\frac{41}{2}$ or 20 or 20.5	22	2	M1 A1	A clear attempt to list the 40 numbers in order <u>and</u> to find the middle number.
	(b)	$(21 \times 13) + (22 \times 8) + (23 \times 8) + (24 \times 6) + (25 \times 5)$ $(= 273 + 176 + 184 + 144 + 125) (= 902)$ "902" \div 40	22.55	3	M1 M1 dep A1	At least 4 products correctly stated or evaluated Accept 22 or 23 if 22.55 seen
						Total 5 marks

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25	$\text{e.g. } \pi \times 8.2^2 (= 211.24\dots, \frac{1681}{25}\pi)$ $\text{or } 1.5 \times 1000 (= 1500)$ $\text{or } \pi \times 8.2^2 \times 10 (= 2112.4\dots, \frac{3362}{5}\pi)$		3	M1 for a correct first step
	$\text{e.g. } (1.5 \times 1000) \div (\pi \times 8.2^2) (= 7.1009\dots)$ $\text{or } (1.5 \times 1000) \div \text{“}2112.4\text{”} \times 10 \text{ oe } (= 7.1009\dots)$ $\text{or } 10 - ((\text{“}2112.4\text{”} - 1.5 \times 1000) \div (\pi \times 8.2^2)) (= 7.1009\dots)$			M1 for a complete method to find the depth of the water or an answer of 2.89 – 2.91
		7.1		A1 accept 7.09 – 7.11
Total 3 marks				

26	$10 \times 79.2 (= 792)$ or $3 \times 68 (= 204)$		3	M1
	$(10 \times 79.2 - 3 \times 68) \div 7$			M1
		84		A1
Total 3 marks				

27	$15 - 3 : x - 3 = 2 : 7$ or $(15 - 3) \div 2 (= 6)$	$(n =) (15 - 3) \div \frac{2}{2+7} (= 54)$ where n is the total age 3 years ago		3	M1	M2 for $\frac{(15-3) \times 7}{2} (= 42)$
	$\frac{x-3}{15-3} = \frac{7}{2}$ oe or $7 \times \text{“}6\text{”} (= 42)$	$\text{“}54\text{”} \times \frac{7}{2+7} (= 42)$			M1	
			45		A1	
Total 3 marks						

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28	Ext $\angle = 180 - 162 (= 18)$ oe or $\frac{(n-2)180}{n} = 162$ oe		3	M1	
	$360 \div "18"$ oe or $18n = 360$			M1	
		20		A1	
					Total 3 marks

29 (b)	$9.45 \div 108 (= 0.0875)$ oe		3	M1	M2 for
	$9.45 \div 108 \times 100$ oe			M1	$9.45 \div 1.08$
		8.75		A1	
					Total 6 marks

30	$525 \div 100^2$		2	M1	
		0.0525 oe		A1	
					Total 4 marks

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Performance data for Practice Test 2F-3F (Set 11)

Qn	Mean score	Max score	Mean %	Edexcel averages: scores of candidates who achieved grade:							
				ALL	5	4	3	2	1	U	
1	1.74	2	87	1.74	1.95	1.92	1.79	1.55	0.78	0.00	
2	2.40	3	80	2.40	2.80	2.69	2.51	1.84	1.19	0.00	
3	1.46	2	73	1.46	1.86	1.66	1.45	1.10	0.62	0.50	
4	2.03	3	68	2.03	2.85	2.58	1.94	1.10	0.47	0.00	
5	1.34	2	67	1.34	1.82	1.58	1.26	0.96	0.51	0.00	
6	1.96	3	65	1.96	2.69	2.45	1.97	1.04	0.37	0.00	
7	0.63	1	63	0.63	0.76	0.71	0.67	0.46	0.28	0.00	
8	1.67	2	84	1.67	1.92	1.83	1.67	1.50	0.91	0.00	
9	0.54	1	54	0.54	0.84	0.68	0.46	0.30	0.12	0.00	
	0.58	1	58	0.58	0.85	0.68	0.59	0.29	0.19	0.00	
	1.85	3	62	1.85	2.55	2.30	1.80	1.02	0.44	0.50	
10	1.20	2	60	1.20	1.66	1.47	1.15	0.73	0.35	0.00	
11	1.72	3	57	1.72	2.54	2.13	1.69	0.86	0.22	0.00	
12	2.28	4	57	2.28	3.38	2.95	1.99	1.33	0.35	0.00	
13	1.64	3	55	1.64	2.77	2.25	1.41	0.42	0.26	0.00	
14	2.13	4	53	2.13	3.23	2.53	1.99	1.31	0.35	0.00	
15	1.05	2	53	1.05	1.66	1.26	0.88	0.68	0.33	0.00	
16	1.44	3	48	1.44	2.38	1.79	1.26	0.69	0.33	0.00	
17	0.96	2	48	0.96	1.53	1.16	0.82	0.59	0.23	0.00	
18	1.22	3	41	1.22	2.07	1.64	0.92	0.57	0.28	0.00	
19	0.36	1	36	0.36	0.82	0.52	0.19	0.08	0.00	0.00	
20	0.67	2	34	0.67	1.42	0.83	0.49	0.20	0.04	0.00	
21	0.33	1	33	0.33	0.63	0.51	0.21	0.07	0.02	0.00	
22	0.79	3	26	0.79	1.76	0.98	0.56	0.18	0.03	0.00	
23	0.47	2	24	0.47	1.15	0.69	0.23	0.03	0.00	0.00	
24	0.47	2	24	0.47	1.03	0.56	0.33	0.13	0.04	0.00	
	1.07	3	36	1.07	2.20	1.62	0.60	0.19	0.09	0.00	
25	0.66	3	22	0.66	1.29	0.82	0.50	0.30	0.07	0.00	
26	0.65	3	22	0.65	1.69	0.79	0.32	0.17	0.02	0.00	
27	0.60	3	20	0.60	1.32	0.85	0.40	0.00	0.00	1.50	

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Edexcel averages: scores of candidates who achieved grade:

Qn	Mean score	Max score	Mean %	Edexcel averages: scores of candidates who achieved grade:							
				ALL	5	4	3	2	1	U	
28	0.51	3	17	0.51	1.55	0.48	0.20	0.21	0.05	0.00	
29	0.48	3	16	0.48	1.40	0.58	0.17	0.07	0.10	0.00	
30	1.08	2	4	1.08	0.34	0.04	0.01	0.00	0.00	0.00	
	36.97	80	46	36.87	58.71	45.53	32.43	19.97	9.04	2.50	

Suggested grade boundaries

1MA1 Practice Tests (Set 10)			9	8	7	6	5	4	3	2	1
1F	Foundation tier	Paper 1F					64	54	44	30	15
2F/3F	Foundation tier	Paper 2F/3F					53	40	27	16	8
Total	Foundation tier						122	98	74	48	24

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