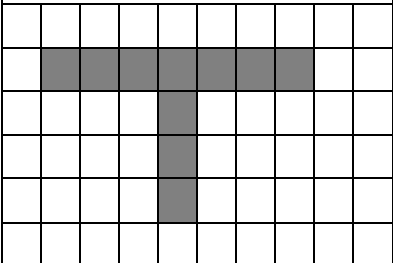


Practice Tests Set 23 – Paper 2F-3F mark scheme

Question	Working	Answer	Mark	Notes
1	$\frac{1}{4} \times 600 (= 150)$ oe or $\frac{3}{4} \times 600 (= 450)$ oe		4	M1
	“450” $\times 13.60 (= 6120)$			M1
	$(7200 - \text{“6120”}) \div \text{“150”}$ or $1080 \div \text{“150”}$			M1
	<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	7.2(0)		A1 SC B2 for 11.46(666...)
				Total 4 marks

Question	Working	Answer	Mark	Notes
2	$\frac{30}{100} \times 250 (= 75)$ oe or $250 - 160 (= 90)$		3	M1
	“90” – “75” or “75” – “90”			M1
	<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	15		A1 allow –15
				Total 3 marks

Practice Tests Set 23 – Paper 2F-3F mark scheme

Question	Working	Answer	Mark	Notes										
3 (a)	<p style="text-align: center;">Pattern number 4</p> 	Correct shape	1	B1										
(b)	<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> </tr> <tr> <td>1</td> <td>4</td> <td>7</td> <td>10</td> <td>13</td> </tr> </table>	1	2	3	4	5	1	4	7	10	13	10 and 13	1	B1 for 10 and 13
1	2	3	4	5										
1	4	7	10	13										
(c)		22	1	B1										
(d)	<p>10 13 16 19 22 25 28 31 34 37 40 43 or $3 \times 15 - 2 (= 43)$ and $3 \times 14 - 2 (= 40)$ or $(42 + 2) \div 3 (= 14.6\dots)$</p>	Correct reason	1	<p>B1 for correct reason, for e.g.</p> <p>$3n - 2 = 42$ does not have a whole number (integer) answer/it's a decimal or 42 is a multiple of 3 or 42 is in the 3 times table or 40 and 43 are in the sequence or 40 is in the sequence and $40 + 3$ does not equal 42 or its 1 less than 43</p>										
				Total 4 marks										

Practice Tests Set 23 – Paper 2F-3F mark scheme

Question	Working	Answer	Mark	Notes
4 (a)	9.02 + 21.90		2	M1
	<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	30.92		A1
(b)	9.02 + 15.85 (= 24.87) or 33.89 – 9.02 (= 24.87) or 33.89 – 15.85 (= 18.04)		3	M1 allow for one correct and any incorrect cost added and then the total subtracted from 33.89 or 9.02 or 15.85 subtracted from 33.89 after subtraction of an incorrect cost
	33.89 – “24.87” (= 9.02) or 33.89 – 15.85 – 9.02 (= 9.02)			M1 a fully correct method to find the cost of the 3rd parcel
	<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	2		A1 cao must come from correct working eg 9.02 from clear method If no marks awarded, SCB1 for any 2 costs from table subtracted from 33.89
				Total 5 marks

Question	Working	Answer	Mark	Notes
5	[6, 6.4]		4	M1 accept in the range 6 – 6.4
	“[6, 6.4]” × 80 (= [480, 512])			M1
	590 – “[480, 512]” (= [110, 78])			M1
	<i>Working required</i>	78 – 110		A1 dep on M1
				Total 4 marks

Practice Tests Set 23 – Paper 2F-3F mark scheme

Question	Working	Answer	Mark	Notes
5 ALT	[6, 6.4]		4	M1 accept in the range 6 – 6.4
	$(590 \div 80) - "[6, 6.4]" (= [0.975, 1.375])$ or $7.375 - "[6, 6.4]" (= [0.975, 1.375])$			M1
	$"[0.975, 1.375]" \times 80 (= [78, 110])$			M1
	<i>Working required</i>	78 – 110		A1 dep on M1
				Total 4 marks

Question	Working	Answer	Mark		Notes
6 (a)		38	1	B1	
(b)		$\times 3$ or +12	1	B1	
(c)		29	1	B1	
(d)	$(61 - 5) \div 8$ oe or $5 + 8 + 8 + 8 + 8 + 8 + 8 + 8 = 61$ oe eg $13 + 8 + 8 + 8 + 8 + 8 + 8$ (allow one too few or one too many 8's if repeated addition used)		2	M1	
	<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	7		A1	
					Total 5 marks

Practice Tests Set 23 – Paper 2F-3F mark scheme

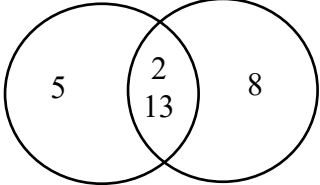
Qn	Working	Answer	Mark	Notes
7	$5 \times 1000 (= 5000)$ or $350 \div 1000 (= 0.35)$		4	M1
	“5000” $\div 350 (= 14.2857\dots)$ or $5 \div$ “0.35” $(= 14.2857\dots)$ or 14			M1 Allow their 5000 or their 0.35
	$350 \times$ “14” or 4900 or $0.35 \times$ “14” or “0.49” or $(14.28(57\dots) - 14) \times 100$			M1
	<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	100 g or 0.1 kg		A1
				Total 4 marks

Question	Working	Answer	Mark	Notes
7 ALT	$5 \times 1000 (= 5000)$ or $350 \div 1000 (= 0.35)$		4	M1
	350, 700, 1050,, 4900 or 0.35, 0.7, 1.05,, 4.9			M1 for repeated addition to at least 4900 or 4.9 (allow one error) or for repeated subtraction to at least 100 or 0.1 (allow one error)
	350, 700, 1050,, 4900 or 0.35, 0.7, 1.05,, 4.9			M1 for repeated addition to 4900 or 4.9 (no errors) or clearly indicated e.g. at the end of their list, circled, underlined etc or for repeated subtraction to 100 or 0.1 (no errors) clearly indicated e.g. at the end of their list, circled, underlined etc
	<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	100 g or 0.1 kg		A1
				Total 4 marks

Practice Tests Set 23 – Paper 2F-3F mark scheme

Question	Working	Answer	Mark	Notes			
8 (a)			3	B3 for all 6 entries correct B2 for 4 or 5 correct entries B1 for 2 or 3 correct entries			
	Professional	26			22	19	67
	Amateur	13			32	8	53
	Total	39			54	27	120
(b)	$\frac{54}{120} \left(= \frac{9}{20} = 0.45 \right)$ oe or $\frac{54}{120} \times 100$ oe		2	M1			
	<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	45		A1 cao			
(c)	$\frac{41}{120} \times 360$ oe eg $0.34(166\dots) \times 360$ or 41×3 or $360 \div \frac{120}{41}$ or $360 \div 2.9(268\dots)$		2	M1			
	<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	123		A1			
				Total 7 marks			

Practice Tests Set 23 – Paper 2F-3F mark scheme

Question	Working	Answer	Mark	Notes																					
9	<p>2, 5, 10, 13, 26, 65 and 2, 4, 8, 16, 26, 52, 104 or 2, 5, 13 and 2, 2, 2, 2, 13 oe</p>  <p>or</p> <table border="1" style="display: inline-table; margin-right: 20px;"> <tr><td colspan="3" style="text-align: center;">e.g.</td></tr> <tr><td style="text-align: center;">26</td><td style="text-align: center;">130</td><td style="text-align: center;">208</td></tr> <tr><td></td><td style="text-align: center;">5</td><td style="text-align: center;">8</td></tr> </table> <table border="1" style="display: inline-table;"> <tr><td colspan="3" style="text-align: center;">e.g.</td></tr> <tr><td style="text-align: center;">2</td><td style="text-align: center;">130</td><td style="text-align: center;">208</td></tr> <tr><td style="text-align: center;">13</td><td style="text-align: center;">65</td><td style="text-align: center;">104</td></tr> <tr><td></td><td style="text-align: center;">5</td><td style="text-align: center;">8</td></tr> </table>	e.g.			26	130	208		5	8	e.g.			2	130	208	13	65	104		5	8	26	2	<p>M1 for starting to list at least two factors of each number excluding 1 and n (Two factors may be written as, for e.g, $130 \div 26 = 5$ and $208 \div 26 = 8$ oe or $130 \div 13 = 10$ and $208 \div 13 = 16$ etc) or 2, 5, 13 and 2, 2, 2, 2, 13 seen (may be in a factor tree or a ladder diagram and ignore 1) or a fully correct Venn diagram oe or other clear method, e.g, table</p>
e.g.																									
26	130	208																							
	5	8																							
e.g.																									
2	130	208																							
13	65	104																							
	5	8																							
	<i>Working required</i>	26		A1dep on M1																					
				Total 2 marks																					

Question	Working	Answer	Mark	Notes
10 (a)		0.000 625	1	B1
(b)	<p>25 000 000 oe e.g. 25×10^6 or 0.25×10^8 or 2.5×10^n $n \neq 7$</p>		2	M1
	<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	2.5×10^7		A1
				Total 3 marks

Practice Tests Set 23 – Paper 2F-3F mark scheme

Question	Working	Answer	Mark	Notes
11	$\frac{1}{2} \times 4.8 \times 2.5 (= 6)$ oe or $3 \times 4.8 (= 14.4)$ oe or $4.8 \times (3 + 2.5) (= 26.4)$		5	M1
	$\frac{1}{2} \times 4.8 \times 2.5 (= 6)$ oe and $3 \times 4.8 (= 14.4)$ oe or $[4.8 \times (3 + 2.5)] - [0.5 \times 2.4 \times 2.5 + 0.5 \times 2.4 \times 2.5]$ or “26.4” – 6 (= 20.4) or			M1
	(“6” + “14.4”) ÷ 1.8 (= 11.3...) or “20.4” ÷ 1.8 (= 11.3...) or $\frac{6}{1.8} + \frac{8}{1.8} (3.3... + 8 = 11.3...)$			M1 dep on M1 for a method to find the number of tins for their area
	“12” × 16.4(0) (= 196.8(0)) or 190 ÷ 16.4 (=11.58...) and “12”			M1 dep on previous M1 for a method to calculate the cost for their number of tins (their number of tins must be rounded up to the next integer) or the number of tins that can be bought compared with their number of tins
	<i>Working required</i>	No and 196.8(0) or 11.58 and 12 seen		A1 dep on M2 SC B1 for 190 ÷ 16.4(0) if M0 scored
				Total 5 marks

Practice Tests Set 23 – Paper 2F-3F mark scheme

Question	Working	Answer	Mark	Notes
12	angle $ABE = 73$ or angle $BEF = 73$ or angle $GEF = 180 - 73 (=107)$ or angle $DEB = 180 - 73 (=107)$ or $360 - 73 - 124$ or $180 - (124 - "107")$		4	M1 could be on diagram
	<i>A correct angle scores 2 marks</i>	163		A1
				B2 dep on M1 and a complete method for all reasons appropriate for their method (B1 dep on M1 for one reason appropriate for their method) eg Angles on a straight <u>line</u> sum to 180° <u>Angles</u> on a straight <u>line</u> sum to 180° <u>Vertically opposite</u> angles are equal. <u>Vertically opposite angles</u> are equal. <u>Corresponding</u> angles are equal. <u>Alternate</u> angles are equal <u>Allied</u> angles sum to 180° (or <u>co-interior</u> angles) Angles at a <u>point</u> (or <u>full turn</u>) add up to 360° (or <u>angles</u> at a <u>point</u>)
				Total 4 marks

Practice Tests Set 23 – Paper 2F-3F mark scheme

Question	Working	Answer	Mark	Notes
13 (a)		11	1	B1
(b)	21 ÷ 2 (=10.5) or 11th oe or 10,11,11,11,,,,,12,12,13... etc with no more than one error		2	M1 For a correct method to find position of median
		13		A1
(c)	10×1+11×7+12×2+13×5+14×4+15×2 or 10 + 77 + 24 + 65 + 56 + 30 oe		2	M1 For at least 4 correct products
	<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	262		A1 (NB: an answer of 12.476.. alone or with 262 ÷ 21 gains M1 only)
				Total 5 marks

Practice Tests Set 23 – Paper 2F-3F mark scheme

Question	Working	Answer	Mark	Notes
14	eg $\frac{380+20}{2}$ (= 200) or $\frac{380-20}{2}$ (= 180) or $\frac{380}{2} + 10$ (= 200) or $\frac{380}{2} - 10$ (= 180)		4	M1 For a correct method to find the number of students in the U6 or the L6
	$\frac{2}{5} \times n$ oe or (U6 Maths =) 72 or $0.32 \times m$ oe or (L6 Maths =) 64 [where n and m are positive numbers]			M1
	$\frac{2}{5} \times n + 0.32 \times m$ or 72 + 64			M1
	<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	136		A1 cao
				Total 4 marks

Practice Tests Set 23 – Paper 2F-3F mark scheme

Question	Working	Answer	Mark	Notes
15	$3 \times 180 (= 540)$ or $360 - [(180 - 90) + (180 - 135) + (180 - 67) + (180 - 119)] (= 51)$ or $360 - (90 + 45 + 113 + 61) (= 51)$		3	M1
	$90 + 135 + 67 + 119 + x = "540"$ oe $411 + x = "540"$ oe or $"540" - (90 + 135 + 67 + 119)$ or $3 \times 180 - (90 + 135 + 67 + 119)$ oe or $540 - 411$ or $180 - "51"$ oe			M1
	<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	129		A1
				Total 3 marks

Question	Working	Answer	Mark	Notes
16	$\frac{39}{n}$ where $n = 3, 4$ or 7 or $"(7 - 4)"$ or for 13 or 9.75 or $5.57\dots$ or $4 : 7$ $8 : 14$ $12 : 21$ $16 : 28$ $20 : 35$ etc to $32 : 56$ or more (don't have to include all trials: ratios must be correct)		3	M1 or allow for this mark eg $\frac{39 \times 4}{7} (= \frac{156}{7} = 22.8)$ or $\frac{39 \times 7}{4} (= \frac{273}{4} = 68.25)$
	$\frac{39}{7-4} \times 4$ oe eg $\frac{4}{3} \times 39$ or for $52 : 91$			M1 working with figures obtained from a correct method
	<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	52		A1 ($52 : 91$ or 91 is M2 unless Alisha = 52 clearly shown in working)
				Total 3 marks

Practice Tests Set 23 – Paper 2F-3F mark scheme

Question	Working	Answer	Mark	Notes
17	$6 \times 11 + 18 \times 25 + 30 \times 23 + 42 \times 15 + 54 \times 6$ (= 2160) or $66 + 450 + 690 + 630 + 324 (= 2160)$ [lower bound products are: 0, 300, 552, 540, 288] [upper bound products are: 132, 600, 828, 720, 360]		4	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
	“2160” ÷ “80”			M1 dep on at least M1 Allow division by their Σf provided addition or total under column seen
	<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	27		A1
				Total 4 marks

Practice Tests Set 23 – Paper 2F-3F mark scheme

Question	Working	Answer	Mark	Notes
18 (a)	18 000 + 14 × 1160 (= 34 240) oe or 18 000 + 16 240 (= 34 240)		4	M1
	“34 240” – 32 000 (= 2240) or $\frac{\text{“34 240”}}{32\ 000}$ (= 1.07)			M1
	$\frac{\text{“2240”}}{32\ 000}$ (×100) or $\frac{\text{“34 240”}}{32\ 000} \times 100$ (= 107) or “1.07” – 1 (= 0.07)			M1
	<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	7		A1
(b)	e.g. 1 – 0.15 (= 0.85) or 100(%) – 15(%) (= 85(%))		3	M1
	e.g. 39 865 ÷ 0.85 or 39 865 ÷ 85 × 100 oe			M1
	<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	46 900		A1
				Total 7 marks

Practice Tests Set 23 – Paper 2F-3F mark scheme

Question	Working	Answer	Mark	Notes	
19	$\frac{2.9}{100} \times 5000 (= 145)$ oe or $1.029 \times 5000 (= 5145)$ oe or $1.029^2 \times 5000 (= 5294\dots)$ oe or $0.058 \times 5000 (= 290)$ oe or $1.058 \times 5000 (= 5290)$		4	M1 Bank H	
	5000×0.016 oe (= 80) oe or 5000×1.016 oe (= 5080) oe or $5000 \times 0.032 (= 160)$ oe or $5000 \times 1.032 (= 5160)$ oe	M2 for 5000×1.016^2 (= 5161.28)		M1 Bank G	
	$(80 + 5000) \times 0.016 (= 81.28)$ oe or $5080 \times 1.016 (= 5161.28)$ oe			M1 Bank G	
	<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	16.28		A1	
				Total 4 marks	

Practice Tests Set 23 – Paper 2F-3F mark scheme

Qn	Skill tested	Mean score	Max score	Mean %	Edexcel averages: scores of candidates who achieved grade:						
					ALL	5	4	3	2	1	U
1	Applying number	2.78	4	70	2.78	3.71	3.42	2.87	1.80	0.60	0.08
2	Applying number	2.12	3	71	2.12	2.82	2.56	2.21	1.38	0.49	0.08
3	Sequences	3.17	4	79	3.17	3.62	3.37	3.13	2.99	2.44	1.35
4	Applying number	3.65	5	73	3.65	4.70	4.19	3.68	2.68	1.43	0.24
5	Measures	2.81	4	70	2.81	3.71	3.35	2.71	2.07	0.94	0.22
6	Expressions and formulae	3.45	5	69	3.45	4.57	3.87	3.32	2.53	1.60	0.48
7	Applying number	2.63	4	66	2.63	3.54	3.08	2.65	1.84	0.86	0.08
8	Graphical representation of data	4.77	7	68	4.77	6.36	5.32	4.47	3.58	2.38	0.70
9	Integers	1.01	2	51	1.01	1.52	1.22	0.92	0.62	0.18	0.03
10	Standard form	1.34	3	86	1.34	2.28	1.59	1.04	0.63	0.30	0.09
11	Mensuration of 2D shapes	2.09	5	42	2.09	3.98	2.68	1.37	0.56	0.09	0.01
12	Angles, lines and triangles	1.74	4	44	1.74	2.66	2.14	1.51	0.98	0.23	0.02
13	Statistical measures	2.20	5	44	2.20	3.56	2.66	1.78	0.97	0.44	0.30
14	Applying number	1.62	4	41	1.62	3.03	1.91	1.17	0.52	0.17	0.05
15	Polygons	1.19	3	40	1.19	2.41	1.43	0.80	0.26	0.03	0.00
16	Ratio and proportion	1.19	3	40	1.19	2.35	1.42	0.72	0.32	0.13	0.07
17	Statistical measures	1.43	4	36	1.43	2.99	1.78	0.79	0.25	0.07	0.01
18	Percentages	2.67	7	38	2.67	4.55	3.04	2.19	1.46	0.48	0.11
19	Percentages	1.43	4	36	1.43	2.61	1.66	1.14	0.47	0.13	0.00
		43.29	80	54	43.29	64.97	50.69	38.47	25.91	12.99	3.92

Suggested grade boundaries

Grade	5	4	3	2	1
Mark	58	45	32	19	9