Practice Tests Set 15 – Paper 1F mark scheme, performance data and suggested grade boundaries

Qn	Working	Answer	Mark	Notes
1		3 squares shaded	1	B1
				Total 1 mark
2		$\dfrac{3}{100}$	1	B1
				Total 1 mark
3		$8a$	1	B1
				Total 1 mark
4		0.85	1	B1 cao
				Total 1 mark
5		$3w$	1	B1
				Total 1 mark

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Qn		Working	Answer	Mark	Notes
6		$0.32 \times 450 \; (= 144)$ oe **or** $\frac{2}{5} \times 375 \; (= 150)$ oe		3	M1
		$0.32 \times 450 \; (= 144)$ oe **and** $\frac{2}{5} \times 375 \; (= 150)$ oe			M1
			144 **and** 150 **and** $\frac{2}{5}$ of 375		A1
					Total 3 marks

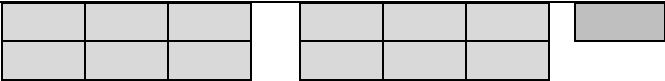| Qn		Working	Answer	Mark	Notes
7	(a)		2.7	1	B1 condone 2.7 million
	(b)		Malaysia	1	B1 cao
	(c)		Correct bar drawn	1	B1 for correct bar at a height of 5.4 (within half small square) allow any bar width or location (no gap required) condone stick at correct height.
	(d)		Russia	1	B1 cao
					Total 4 marks

Qn		Working	Answer	Mark		Notes
8		$\dfrac{10}{24}+\dfrac{9}{24}$ or $\dfrac{10n}{24n}+\dfrac{9n}{24n}$ or eg $\dfrac{40+36}{96}\left(=\dfrac{76}{96}\right)$		2	M1	for writing a sum, and each fraction with a common denominator, eg $\dfrac{10}{24}+\dfrac{9}{24}$
		$\dfrac{10}{24}+\dfrac{9}{24}=\dfrac{19}{24}$ or eg $\dfrac{40+36}{96}=\dfrac{76}{96}=\dfrac{19}{24}$	clearly shown		A1	dep on M1 continued to clearly show given result
						Total 2 marks

9	(a)		$3\dfrac{4}{5}$	1	B1	
	(b)		$\dfrac{4}{11}$	1	B1	
						Total 2 marks

| **10** | | $4+24$ | 28 | 1 | B1 | |
| | | | | | | **Total 1 mark** |

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Qn		Working	Answer	Mark	Notes
11	(a)		40	1	B1
	(b)	e.g. 9×4 or $68 - 32$ oe		2	M1 May be seen by side of pictogram.
			36		A1
	(c)		2 rectangles of 6 sections and 1 small section	1	B1 oe
					Total 4 marks

Qn		Working	Answer	Mark	Notes
12	(a)		$4m + 8$	1	B1 do not isw further incorrect working
	(b)	$2x = -19 - 5$ **or** $2x = -24$ **or** $x = \dfrac{-19 - 5}{2}$ or $x = \dfrac{-24}{2}$		2	M1
			-12		A1 cao
					Total 3 marks

Qn		Working	Answer	Mark	Notes
13	(a)		$5f$	1	B1
	(b)		$9c - 2h$	2	B2 (B1 for one correct term)
	(c)		$5(2d + 3)$	1	B1
					Total 4 marks

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Qn		Working	Answer	Mark	Notes
14	(a)		evens	1	B1
	(b)		Cross at 0	1	B1
	(c)		Cross at the 2nd mark along	1	B1 ie the mark before ½
	(d)		Cross at the 4th mark along	1	B1 ie the mark after ½
					Total 4 marks

Qn		Working	Answer	Mark	Notes
15			$\dfrac{14}{18}$	1	B1 for any fraction equal to $\dfrac{7}{9}$

Qn		Working	Answer	Mark	Notes
16	(a)		sphere	1	B1
	(b)		12	1	B1 cao
	(c)		10	1	B1 cao
					Total 3 marks

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Qn	Working	Answer	Mark	Notes
17	<table><tr><td>x</td><td>−1</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td></tr><tr><td>y</td><td>−5</td><td>−2</td><td>1</td><td>4</td><td>7</td><td>10</td></tr></table>	3	3	B3 for a correct line between −1 and 4 B2 for a correct straight line segment through at least 3 of (−1, −5)(0, −2)(1, 1) (2, 4)(3, 7)(4, 10) **OR** for all of (−1, −5)(0, −2)(1, 1)(2, 4) (3, 7)(4, 10) plotted but not joined B1 for at least 2 correct points plotted or stated (ignore incorrect points) **OR** for a line drawn with a positive gradient through (0, −2) and clear intention to use a gradient of 3 **OR** a line drawn with a gradient of 3
				Total 3 marks

18 (a)		47	1	B1 Answer in range 46.5 – 47.5
(b)	A correct method to convert either dirham to euros **or** euros to dirham e.g. 400 Dirham = 2 × 200 Dirham = 2 × "47" (= 94) euros **or** 90 euros = 30 + 60 = 127.5 +255 = 382.5 Dirham		2	M1
		France with correct calculations		A1
				Total 3 marks

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Qn		Working	Answer	Mark		Notes
19	(a)		Correct mirror line $x = -1.5$	1	B1	Correct line drawn at $x = -1.5$ allow freehand with intention to draw at -1.5
	(b)		Shape drawn	2	B2	for correct shape with vertices at $(-1,2), (-1, 4), (-3, 2)$ and $(-3, 5)$
					(B1	for a correct orientation or 90° clockwise turn about correct point)
						Total 3 marks

Qn		Working	Answer	Mark		Notes
20	(a)		3.0 – 3.2	1	B1	for in the range 3.0 – 3.2
	(b)		Parallelogram	1	B1	allow trapezium
	(c)		2	1	B1	cao
	(d)		Correctly labelled	1	B1	Angle *DAB* or angle *DCB* or both labelled
						Total 4 marks

Qn	Working	Answer	Mark	Notes
21	e.g. $\dfrac{15}{4}$		3	M1 for $3\dfrac{3}{4}$ expressed as an improper fraction
	e.g. $\dfrac{\cancel{15}^{5}}{4}\times\dfrac{7}{\cancel{9}^{3}}$ **OR** $\dfrac{105}{36}$ oe			M1 correct cancelling or multiplication of numerators and denominators without cancelling
	e.g. $\dfrac{\cancel{15}^{5}}{4}\times\dfrac{7}{\cancel{9}^{3}}=\dfrac{35}{12}=2\dfrac{11}{12}$ **or** $\dfrac{15}{4}\times\dfrac{7}{9}=\dfrac{105}{36}=\dfrac{35}{12}=2\dfrac{11}{12}$ **or** $\dfrac{15}{4}\times\dfrac{7}{9}=\dfrac{105}{36}=2\dfrac{33}{36}=2\dfrac{11}{12}$	shown		A1 dep on M2, for conclusion to $2\dfrac{11}{12}$ from correct working – either sight of the result of the multiplication e.g. $\dfrac{105}{36}$ oe must be seen **or** correct cancelling prior to the multiplication to $\dfrac{35}{12}$ NB: use of decimals scores no marks
				Total 3 marks

Qn	Working	Answer	Mark	Notes
22	$(-5)^{2}-4\times-5$ oe e.g. $25+20$		2	M1 for a correct substitution
		45		A1

Qn	Working	Answer	Mark	Notes
23	e.g. $4\times6 (=24)$		4	M1 for finding the perimeter of square
	e.g. $("24"-6)\div2 (=9)$			M1 for finding the length of the longest side in the triangle
	e.g. $18\times3+6$ or $"9"\times6+6$			M1 oe, allow their length of the longest side in the triangle as long as clearly stated or identified (could be on diagram)
		60		A1 dep on M2
				Total 4 marks

Qn	Working	Answer	Mark	Notes
24			3	B3 for all entries correct (B2 for 3 sections of the Venn diagram correct) (B1 for 2 sections of the Venn diagram correct)
				Total 3 marks

Qn	Working	Answer	Mark	Notes
25	$e - g = 7t$ or $\dfrac{e}{7} = t + \dfrac{g}{7}$ oe		2	M1
		$t = \dfrac{e - g}{7}$		A1 oe e.g. $(e - g) \div 7$
				Total 2 marks

Qn	Working	Answer	Mark	Notes
26 (a)		0	1	B1 condone 150^0
(b)		−2	1	B1 condone 3^{-2}
				Total 2 marks

Qn	Working	Answer	Mark	Notes
27 (a)		**A** and **D**	1	B1
(b)		Correctly enlarged shape	2	B2 A correctly drawn shape (B1 for a shape with 3 sides correctly enlarged)
				Total 3 marks

Qn	Working	Answer	Mark		Notes
28	$5x - 3 = 4(2x + 3)$ oe **or** $\dfrac{5x}{4} - \dfrac{3}{4} = 2x + 3$ oe		3	M1	for correctly removing the denominator, condone missing brackets
	e.g. $5x - 8x = 12 + 3$ **or** $-3x = 12 + 3$ **or** $8x - 5x = -12 - 3$ **or** $3x = -12 - 3$ **or** $-\dfrac{3}{4} - 3 = 2x - \dfrac{5x}{4}$ **or** $-\dfrac{15}{4} = \dfrac{3x}{4}$			M1	for a correct rearrangement with terms in x on one side and numbers on the other, allow correct rearrangement of their equation in the form $ax + b = cx + d$
		-5		A1	dep on at least M1 SCB2 for an answer of $x = -2$ coming from $5x - 3 = 8x + 3$ **or** $x = 5$ coming from $5x - 3 = 2x + 12$
					Total 6 marks

Qn	Working	Answer	Mark	Notes
29 (a)			2	M1 for $(x \pm 6)(x \pm 7)$
		$(x + 6)(x - 7)$		A1 for $(x + 6)(x - 7)$ or $(x - 7)(x + 6)$ isw roots given if candidate solves the quadratic $= 0$
(b)	$3x - 8x < 3 - 15$ or $15 - 3 < 8x - 3x$		3	M1 accept as equation or with the wrong inequality sign.
	$-5x < -12$ or $12 < 5x$			M1 accept as equation or with the wrong inequality sign.
		$x > 2.4$		A1 Accept $2.4 < x$ or $x > \dfrac{12}{5}$ oe allow $(-\infty, 2.4)$ award M1 M1 A0 for 2.4 with $=$ sign or no inequality or incorrect inequality sign.
				Total 5 marks

Qn	Working	Answer	Mark	Notes
30			2	M1 Arcs on *BC*, *AB* and arcs from these points meeting **or** for bisector without arcs
		Correct bisector		A1 must see correct arcs
				Total 2 marks

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Qn	Working	Answer	Mark	Notes
31	$y = \dfrac{7-5x}{2}$ or $y = \dfrac{7}{2} - \dfrac{5}{2}x$ or $y = 3.5 - 2.5x$ or $2y = 7 - 5x$ oe		2	M1 for making y or $2y$ the subject
		−2.5		A1 for $-\dfrac{5}{2}$ or −2.5
				Total 2 marks

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Qn	Working	Answer	Mark	Notes

New Qn	Skill tested	Mean score	Max score	Mean %	Edexcel averages: scores of candidates who achieved grade:					
					ALL	5	4	3	2	1
1	Fractions	0.89	1	89	0.89	0.98	1.00	0.86	0.57	0.33
2	Fractions	0.90	1	90	0.90	0.98	1.00	0.79	0.57	0.67
3	Algebraic manipulation	0.91	1	91	0.91	0.98	1.00	0.71	0.57	0.83
4	Decimals	0.91	1	91	0.91	0.95	1.00	1.00	0.57	0.80
5	Algebraic manipulation	0.74	1	74	0.74	0.92	0.75	0.57	0.29	0.00
6	Percentages	2.72	3	91	2.72	3.00	3.00	2.57	1.71	1.50
7	Graphical representation of data	3.80	4	95	3.80	3.89	4.00	3.69	3.57	3.20
8	Fractions	1.63	2	82	1.63	1.97	2.00	1.00	0.86	0.00
9a	Fractions	0.73	1	73	0.73	0.90	0.75	0.50	0.29	0.17
9b	Fractions	0.89	1	89	0.89	0.95	0.88	0.86	0.86	0.50
10	Integers	0.91	1	91	0.91	0.97	0.88	0.85	0.86	0.60
11	Graphical representation of data	3.63	4	91	3.63	3.91	3.50	3.29	3.86	2.17
12	Linear equations	2.49	3	83	2.49	2.92	2.37	2.23	0.86	1.00
13a	Algebraic manipulation	0.80	1	80	0.80	0.87	0.75	0.71	0.71	0.67
13b	Expressions and formulae	1.72	2	86	1.72	2.00	1.50	1.43	1.29	0.50
13c	Expressions and formulae	0.73	1	73	0.73	0.95	0.50	0.57	0.00	0.17
14	Probability	2.84	4	71	2.84	3.20	2.62	2.51	1.72	1.99
15	Fractions	0.68	1	68	0.68	0.85	0.62	0.50	0.29	0.00
16	Measures	2.17	3	72	2.17	2.58	1.76	1.77	1.15	0.80
17	Graphs	2.17	3	72	2.17	2.72	1.75	1.43	1.14	0.50
18	Graphs	2.30	3	77	2.30	2.80	1.63	1.93	1.42	0.33
19	Transformation geometry	1.93	3	64	1.93	2.50	1.62	1.31	0.28	0.00
20	Angles, lines and triangles	2.71	4	68	2.71	3.18	1.87	2.23	1.56	1.40
21	Fractions	1.75	3	58	1.75	2.38	1.38	0.71	0.14	0.50
22	Expressions and formulae	1.22	2	61	1.22	1.68	0.88	0.50	0.00	0.33
23	Mensuration of 2D shapes	2.50	4	63	2.50	3.50	1.75	1.00	0.29	0.00
24	Set language and notation	2.17	3	72	2.17	2.72	1.25	1.79	0.86	0.67

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Qn	Working				Answer						
25	Use of symbols	1.11	2	56	1.11	1.63	0.62	0.29	0.00	0.00
26	Powers and roots	1.25	2	63	1.25	1.71	0.50	0.77	0.00	0.00
27	Similarity	1.50	3	116	1.50	2.00	0.62	0.86	0.86	0.17
28	Linear equations	1.82	3	61	1.82	2.72	0.62	0.50	0.00	0.00
29	Inequalities	2.71	5	54	2.71	4.08	0.75	0.31	0.00	0.00
30	Construction	0.86	2	43	0.86	1.37	0.12	0.00	0.00	0.00
31	Algebraic manipulation	0.73	2	37	0.73	1.13	0.12	0.00	0.00	0.00
	TOTAL	**56.82**	**80**	**71**	**56.82**	**69.89**	**45.36**	**40.04**	**27.15**	**19.80**

Suggested grade boundaries

Grade	5	4	3	2	1
Mark	53	43	33	23	13