

Practice Tests Set 7 – Paper 3F mark scheme – Spring 2018

Qn	Working	Answer	Mark	Notes
1		65	1	B1 cao
2		36	1	B1 cao
3		$\frac{1}{6}$	1	B1 for cross placed close to $\frac{1}{6}$
4		0.3	1	B1 cao
5	(a) (b) (c) (d) All patterns have odd number of sticks	9,11 31 Method No, with reason	2 1 1 1	B2 cao B1 cao B1, eg. double and add 1 C1 for no, with reason
6	(a) (b)	Thursday Correct chart	1 2	B1 cao B2
7	(a) (b)	Reason $4n + 2$	1 2	B1, e.g. all numbers in sequence are even M1 for $4n$ A1 cao
8	(a) (b)	Correct diagram $\frac{2}{7}$	2 2	B1 all correct B1 for at least 6 correct M1 for 7 seen A1 cao

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9	(a)	$12x + 6 - 6x - 2$	1	A1 cao
	(b)	a^{20}	1	A1 cao
10		25	3	M1 for (opposite angle =) 50 May be marked on the diagram M1 for complete method e.g. $90 - (180 - "50") \div 2$ or $50 \div 2$ A1 cao or M1 for $180 - 50 (= 130)$ May be marked on the diagram M1 for complete method eg $(180 - "130") \div 2$ A1 cao
11	(a)	0.47	1	B1 cao
	(b)	2.28×10^9	2	M1 for 22.8 and 10^8 seen A1 cao
12	$60 \div 5 = 12$ $12 \times 4 = 48$ $60 + 48 = 108$	108	3	M1 for finding that one part = 12 students M1 for boys = 48 A1 cao

Qn	Working	Answer	Mark	Notes
13	(a)	$24 \times \frac{5}{3}$	2	M1 or $24 \div 3 (=8)$ A1 cao
	(b)	$\frac{45}{5} \times 4$ oe	2	M1 or $45 \div (4 + 1) (=9)$ A1 cao
14		$y = 2x + 1$ drawn	3	M1 at least 2 correct attempts to find points by substituting or line drawn with gradient of 2 or line drawn with y intercept at 1 M1 at least 2 correct points plotted or line segment of $y = 2x + 1$ drawn A1 correct line between $x = -2$ and $x = 3$
15		explanation	2	M1 identifies two different prime numbers C1 explanation e.g. counter example $2 + 7 = 9$
16		No, with comparison of correct values	3	P1 starts process of comparison, e.g. writes two appropriate fractions or finds a percentage or works out a multiplier P1 complete process to give values that can be used for comparison A1 No and comparison of correct comparable values (e.g. 80% and 76.7...% OR 44.8 (people) (accept Yes with a suitable argument)
17		46	2	M1 links 5% with 2.30 or $100 \div 5 (= 20)$ A1 cao

Qn	Working	Answer	Mark	Notes
18	(a)	34.93	5	P1 process to find area of circle or semicircle $\pi \times 4.2^2 (\div 2)$ P1 process to find area of garden (= 74.7...) P1 process to find number of boxes “74.7” $\div 12$ P1 process to find cost “7” $\times 4.99$ A1 cao
	(b)	Correct statement	1	C1 e.g. She might need to buy fewer boxes
19		36	3	P1 a correct process to find either an interior or an exterior angle, e.g. $(180 \times 3) \div 5 (= 108)$ or $360 \div 5 (= 72)$ P1 (dep) a complete process to find angle <i>CFD</i> A1 cao
20		36.4	4	P1 a strategy to start to solve the problem e.g. $105 \div (5 - 2) (= 35)$ P1 process to find Laura’s share e.g. $385 - 2 \times “35” - 5 \times “35” (= 140)$ or $385 \div “35” - 2 - 5 (= 4)$ P1 process to find the percentage Laura gets e.g. “140” $\div 385 \times 100$ oe or “4” $\div 11 \times 100$ oe A1 answer in range 36.3 to 36.4, accept 36%

Qn	Working	Answer	Mark	Notes
25	(a)	2	1	B1 cao
	(b)	negative (correlation)	1	B1 cao
	(c)	(1.5, 8) plotted line of best fit through (1.5, 8)	2	B1 (1.5, 8) plotted B1 line of best fit through (1.5, 8)
	(d)	2.6 – 2.9	1	A1 for answer in range 2.6 – 2.9
26		Vertices at (3, 2) (3, 4) (4, 4) (4, 3)	2	B2 B1 for shape of correct size and orientation OR a correct enlargement scale factor $\frac{1}{2}$, centre (1, 3)
27		30	2	M1 use of appropriate formula, e.g. $\sin x = \frac{1.6}{3.2} = 0.5$ A1 cao

Suggested grade boundaries

	5	4	3	2	1
Paper 1F	66	52	38	24	10
Paper 2F	49	39	29	19	10
Paper 3F	45	36	27	18	10
Total	160	127	94	61	30