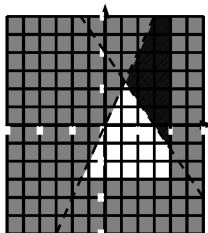


Practice Tests Set 7B – Paper 2H mark scheme – Spring 2018

Qn	Working	Answer	Mark	Notes
1	(a) $2.1 \div (1 + 2 + 3) (= 0.35)$ or $2.1 \div 6$ $2.1 \div (1 + 2 + 3) \times 2$ or $2.1 \div 6 \times 2$	0.7	2	M1 allow $2.1 \div (1 + 2 + 3) \times 3 (=1.05)$ for the method mark A1 (accept 0.70)
	(b) $6 \div 3 = 2$ and 2×0.75 or $\frac{0.75}{3} \times 6$ oe	1.5	2	M1 for a complete method A1 cao
2	(a)	1160	3	B1
	(b)	1.16×10^3		B1 ft
	(c)	1200 (oe)		B1 ft
3	(a)	$(x - 4)(x + 4)$	1	B1
	(b)	$(3x - 1)^2$	2	B1 for $(3x - 1)(\dots)$ cao B2 for $(3x - 1)^2$ cao
	(c) $\frac{(3x - 1)(2x + 3)}{(3x - 1)^2} = \frac{(2x + 3)}{(3x - 1)}$	$\frac{2x + 3}{3x - 1}$		B1 for correct factorisation of numerator M1 for cancelling of common factors A1 cao

Qn	Working	Answer	Mark	Notes
4	$\frac{3w+20}{200} = 1$ $3w+20 = 200$	60	3	M1 $p = 1$ stated or used M1dep $3w + 20 = 200$ oe A1 cao
5	(a) $\frac{3}{10} \times \frac{5}{6}$ (b)	$\frac{15}{60}$ or $\frac{1}{4}$ 24	2 2	M1 A1 Accept $\frac{3}{12}$, $\frac{5}{20}$ B1 for multiple of 24
6	(a) 2 correct points plotted e.g (0, 4) and (3, 0) $4x + 3y = 12$ drawn (b)		2 3	Correct region B2 for $x = 4$ and $y = -3$ drawn and consistent shading correct for at least two inequalities B1 for $x = 4$ and $y = -3$ drawn
7		$2x^2 + 7x + 4 = 0$	3	M1 correct coefficient M1 finding a and c or b and c A1 cao



Qn	Working	Answer	Mark	Notes
8	<p>Number of boys possible is 15</p> <p>Number of possible girls is 9</p> <p>Each boy can be paired with 9 different girls</p> <p>15×9</p>	135		<p>P1 Process to find the number of combinations</p> <p>A1 for 135</p> <p>C1 Convincing reason</p> <p>eg. correct calculation is $15 \times 14 \div 2$</p>
9		300 and correct assumption	4	<p>M1 for partial working, e.g. $\frac{20}{8}$ oe</p> <p>or 40% or $\frac{2}{5}$ or $20 \div 8$ or $\frac{8}{20}$ seen</p> <p>M1 for complete method e.g. $\frac{120 \times 20}{8}$ or 15×20</p> <p>or $\frac{120}{n} = \frac{8}{20}$ or $120 \div 0.4$ oe</p> <p>A1 cao</p> <p>C1 for a correct mathematical assumption, e.g. mark does not wear off or sample is random or population has not changed, etc</p>

Qn	Working	Answer	Mark	Notes
10	(a) $\frac{3}{6} \times \frac{3}{6}$	$\frac{9}{36}$	2	M1 A1 cao
	(b) $\frac{3}{6} \times \frac{3}{6}$ $\frac{1}{6} \times \frac{5}{6} + \frac{2}{6} \times \frac{3}{6}$ $\frac{1}{6} \times \frac{2}{6} + \frac{1}{6} \times \frac{3}{6} + \frac{2}{6} \times \frac{3}{6}$ $\frac{3}{6} \times \frac{3}{6} + \frac{1}{6} \times \frac{2}{6}$		3	M1 M1 for terms seen A1
		$\frac{11}{36}$		

Suggested grade boundaries

	9	8	7	6	5	4
Paper 1H	34	30	26	22	18	13
Paper 2H	36	31	26	21	16	11
Paper 3H	29	25	21	17	13	9
Total	99	86	73	60	47	33