Practice Tests Set 7B – Paper 3H mark scheme – Spring 2018

Qn		Working	Answer	Mark	Notes
1	(a)	8.5×5	42.5	1	B1 cao
	(b)		110°	1	B1 cao
	(c)		Correct ×	2	M1 bearing of 40° or at distance 4 cm A1 correctly marked ×
2	(i)		$2^2 \times 5$	3	B1 for $2^2 \times 5$ oe or 20
	(ii)		$2^3 \times 3 \times 5^2$		B2 for $2^3 \times 3 \times 5^2$ oe or 600 (B1 for any product using powers of 2 and 3 and 5 **or** at least 300, 600… **and** 40, 80, 120 …)
3			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)
4		$-4 \times 2 + 3k = 7$	5	2	M1 A1

Qn		Working	Answer	Mark	Notes
5		$k^2 = \frac{5m+2e}{3e}$ **or** $k\sqrt{3e} = \sqrt{5m+2e}$ $3ek^2 = 5m + 2e$ $3ek^2 - 2e = 5m$ or $-5m = 2e - 3ek^2$ $e(3k^2 - 2) = 5m$ or $-5m = e(2 - 3k^2)$	$e = \frac{5m}{3k^2 - 2}$	4	M1 Squaring both sides **or** clearing fraction M1 Clearing fraction **and** squaring both sides M1 Isolating terms in e in a correct equation A1 cao
6	(a) (b)			2	C1 Initial cost, cost of travelling 0 miles C1 Charge per km, cost per 1 km
7			2.4 g/cm^3	5	B1 for appropriate intervals for measurements P1 for correct process to find upper bound P1 for correct process to find lower bound P1 explanation of correct process to find appropriate degree of accuracy A1 cao

Qn		Working	Answer	Mark	Notes
8			6		B1 for expression for Carma's share B1 for expression for Banu's share M1 for adding shares A1 cao
9	(a)		320	2	M1 for sight of 1:4 or 4:1 A1 cao
	(b)		1 373 600	3	M1 for sight of 1:8 of 8:1 M1 for 8 × 171700 A1 cao
10	(a)	$5 \times$ "2.5" or $5 \times \frac{27.5}{11}$ or $\frac{RQ}{5} = \frac{27.5}{11}$ oe or $\frac{5}{11} = \frac{RQ}{27.5}$ oe	12.5	2	M1 Correct expression for *RQ* or correct equation to give *RQ*. ft their answer to (a) A1 cao
	(b)	$42.5 \div$ "2.5" or $42.5 \times \frac{11}{27.5}$ or $42.5 \times \frac{5}{"12.5"}$ or $\frac{CD}{42.5} = \frac{11}{27.5}$ or $\frac{CD}{42.5} = \frac{5}{"12.5"}$ oe	17	2	M1 Correct expression for *CD* or correct equation to give *CD*. ft their *RQ*, if used. ft their answer to (a) A1 cao

Qn		Working	Answer	Mark	Notes
11			31.1	5	M1 for $\frac{1}{2} \times 8.4 \times x \times \sin 40 = 100$ M1 for $100 \div (0.5 \times 8.4 \times \sin 40)$ (= 37.(041...)) M1 (dep on 1st M1) for substituting the appropriate figures into the cosine rule e.g. $8.4^2 + 37.041^2 - 2 \times 8.4 \times 37.041 \cos 40°$ M1 (dep on previous M1) for correct order of evaluation or $(c^2 =)$ 965.(897...) A1 31.07 – 31.1

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**