ISEB
Independent Schools Examinations Board

COMMON ENTRANCE EXAMINATION AT 11+

MATHEMATICS

MARK SCHEME

Specimen Paper

(for first examination in Autumn 2016)

This is a suggested, not a prescriptive, mark scheme.

M: 1 means 1 mark for the correct method.

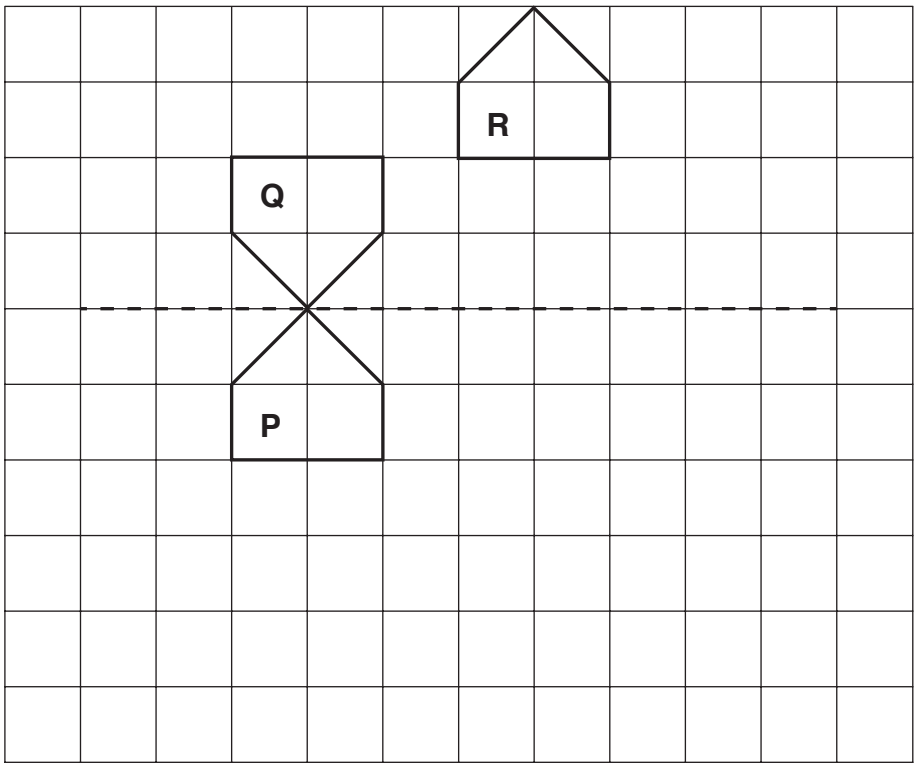
A: 2 means 2 marks for the correct answer.

Some of the answers are worth 2 marks
Award M: 1 A: 1 unless otherwise stated.

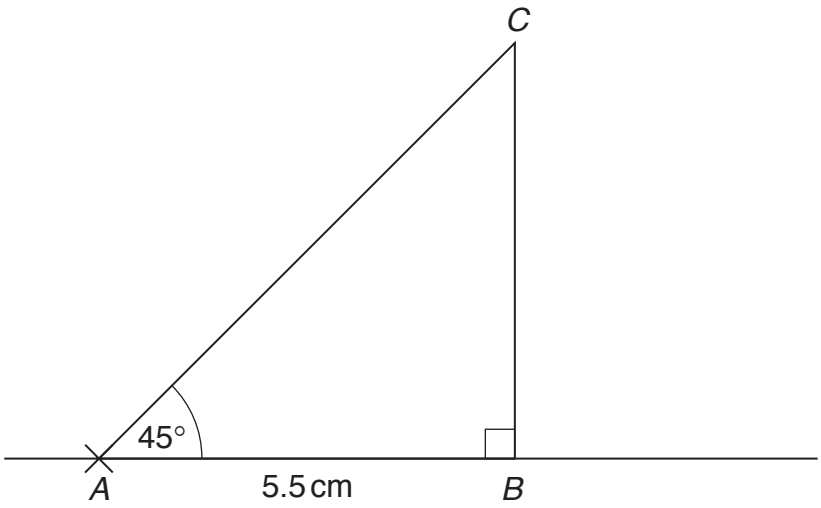
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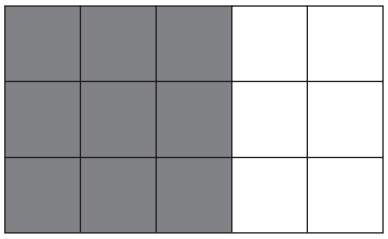
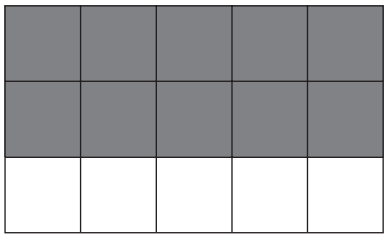
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Q.	Answer	Mark	Additional Guidance
1. (i)	83	**1**	A: 1
(ii)	490	**1**	A: 1
(iii)	7	**1**	A: 1
(iv)	8	**1**	A: 1
(v)	20	**1**	A: 1
(vi)	630	**1**	A: 1
(vii)	695	**1**	A: 1
(viii)	135	**1**	A: 1
2. (a)	11, 13, 17, 19	**2**	A: 2 A: 1 for 3 given or all correct but with 1 additional number
(b)	12, 24, 36	**1**	A: 1
(c)	1, 2, 4, 8, 16	**2**	A: 2 A: 1 for 4 factors or all correct but with 1 additional number
3. (i)	47p	**2**	
(ii)	£13.42	**2**	M: 1 for £6.58 seen A: 1
4. (i)	24 °C	**1**	A: 1
(ii)	−5 °C	**1**	A: 1
5. (i)	7	**1**	A: 1
(ii)	1	**1**	A: 1
(iii)	8	**1**	A: 1

Q.	Answer	Mark	Additional Guidance
6. (i)			
	Shape Q drawn	**2**	A: 1 for orientation A: 1 for position
(ii)	Shape R drawn	**2**	A: 1 for 3 units right A: 1 for 4 units up
(iii)	$3\,cm^2$	**2**	A: 1 for 3 A: 1 for cm^2
7. (a) (i)	5	**1**	A: 1
(ii)	1000	**1**	A: 1
(b)	2017	**1**	A: 1

Q.	Answer	Mark	Additional Guidance
8. (a) (i)	5403	**2**	
(ii)	1755	**2**	
(iii)	7128	**3**	M: 1 for 1848 M: 1 for 5280 A: 1 for 7128
(iv)	145	**2**	
(b)	2100	**1**	A: 1
9.	11	**2**	M: 1 for 55 seen A: 1
10. (i)	$\frac{15}{11}$	**1**	A: 1
(ii)	$\frac{4}{5}$	**1**	A: 1
(iii)	$\frac{3}{4}$	**1**	A: 1
(iv)	$\frac{8}{12}$	**1**	A: 1
11.	165 cm	**2**	M: 1 for 15 A: 1
12. (i) (a)	97536	**1**	A: 1
(b)	79653	**1**	A: 1
(ii)	37	**1**	A: 1
(iii)	36 + 57 or 37 + 56	**1**	A: 1 in either order
13.	2.087 km, 2.708 km, 2778 m, 27.8 km	**3**	M: 1 for converting units A: 2 allow each answer in any units subtract one for each error or omission

Q.	Answer	Mark	Additional Guidance
14. (i)			
	triangle *ABC* drawn	**3**	M: 1 for angle $A = 45 \pm 2°$ M: 1 for $AB = 5.5 \pm 0.1$ cm and angle $B = 90 \pm 2°$ A: 1 for completing triangle
(ii)	5.5 cm	**1**	A: 1 allow 5.4–5.6 cm
(iii)	equilateral (isosceles) scalene (right-angled) Reasons: angle *B* is 90° *and AB = BC* or angle *C* = 45° = angle *A*	**2**	A: 1 for both circled A: 1 for reasons

Q.	Answer	Mark	Additional Guidance
15. (i) (a)		**1**	A: 1 any 9 squares shaded
(b)		**1**	A: 1 any 10 squares shaded
(c)	$\frac{2}{3}$ because e.g. $\frac{2}{3} = \frac{10}{15}$ and $\frac{3}{5} = \frac{9}{15}$	**2**	A: 1 for $\frac{2}{3}$ A: 1 for any correct reason
(ii)	$\frac{3}{5}, \frac{2}{3}, \frac{4}{5}, \frac{13}{15}, 1\frac{1}{3}$	**2**	A: 2 subtract 1 for each error or omission
16. (i)	$\frac{1}{2}$	**2**	M: 1 for $\frac{4}{6}$ seen A: 1
(ii)	$1\frac{1}{5}$	**2**	
17.	$\frac{5}{8}$	**3**	M: 1 for 3 green M: 1 for 6 red A: 1
18. (a)	110°	**2**	M: 1 for 220° A: 1
(b)	$a = 30°$ $b = 150°$ $c = 150°$	**3**	A: 1 for each
19. (i)	10 °C	**1**	A: 1
(ii)	10:30 a.m.	**1**	A: 1
(iii)	3:20 p.m.	**1**	A: 1 or equivalent

Q.	Answer	Mark	Additional Guidance
20. (i)	3 m	**2**	
(ii)	22 m	**2**	
(iii)	6 m	**2**	
(iv)	$24\,m^2$	**1**	A: 1
(v)	e.g. $x = 5$ m and $y = 10$ m or $x = 6$ m and $y = 9$ m	**2**	A: 1 for each pair of values which sum to 15
21. (i)	9 litres	**1**	A: 1
(ii)	21 litres	**2**	M: 1 for $35 \div 5$ A: 1
22. (a)	13 and 7	**1**	A: 1 in either order
(b)	$2(a + 7)$	**2**	A: 1 for $a + 7$ A: 1 for multiplying by 2 accept correct equivalent form e.g. $(a + 7) \times 2$ or $2a + 14$
(c)	$n = 7$	**2**	A: 1 for $3n - 5 = 16$ A: 1 for $n = 7$ (allow this mark even if equation has not been formed)
Total		**100**	