



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.

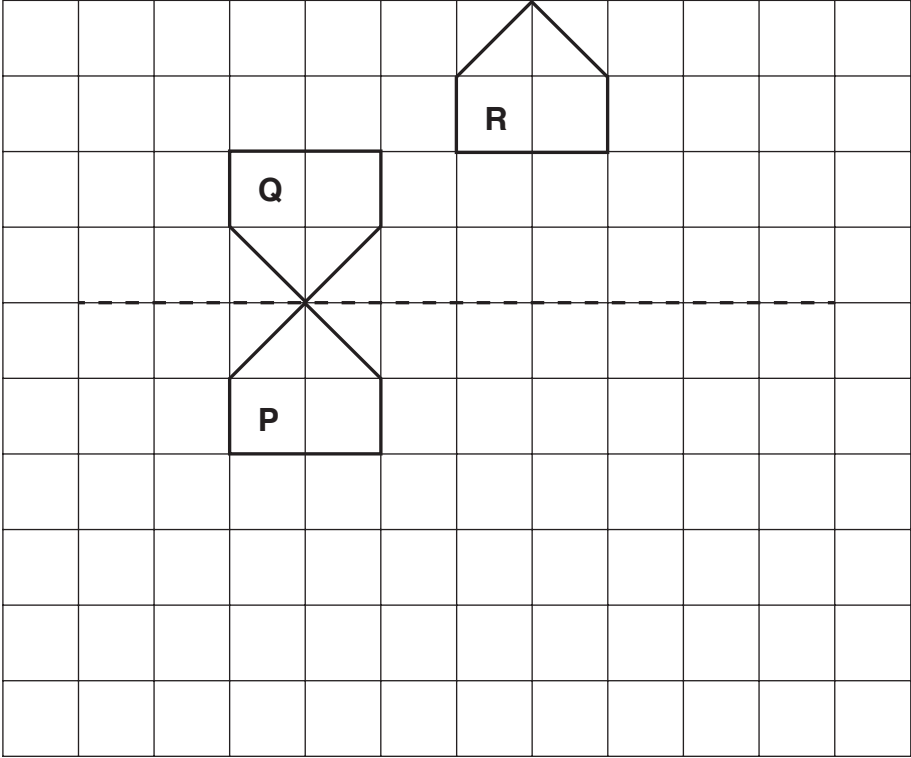
M: 1 means 1 mark for the correct method.

A: 2 means 2 marks for the correct answer.

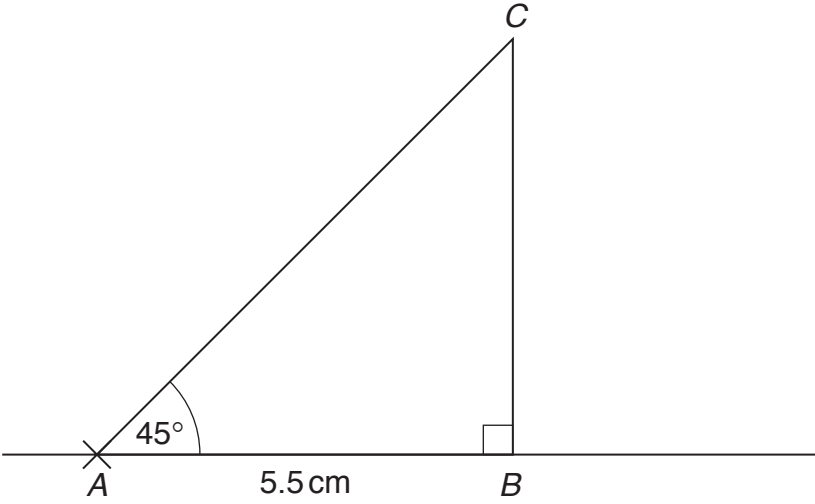
Some of the answers are worth 2 marks
Award M: 1 A: 1 unless otherwise stated.

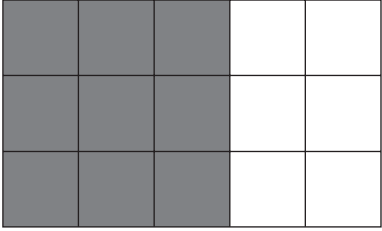
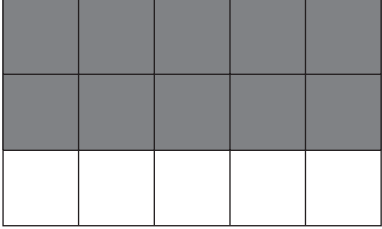


Q.	Answer	Mark	Additional Guidance
1. (i)	83	1	A: 1
(ii)	490	1	A: 1
(iii)	7	1	A: 1
(iv)	8	1	A: 1
(v)	20	1	A: 1
(vi)	630	1	A: 1
(vii)	695	1	A: 1
(viii)	135	1	A: 1
2. (a)	11, 13, 17, 19	2	A: 2 A: 1 for 3 given or all correct but with 1 additional number
(b)	12, 24, 36	1	A: 1
(c)	1, 2, 4, 8, 16	2	A: 2 A: 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)	 <p>triangle ABC drawn</p>	3	<p>M: 1 for angle $A = 45 \pm 2^\circ$</p> <p>M: 1 for $AB = 5.5 \pm 0.1$ cm and angle $B = 90 \pm 2^\circ$</p> <p>A: 1 for completing triangle</p>
(ii)	5.5 cm	1	A: 1 allow 5.4–5.6 cm
(iii)	<p>equilateral (isosceles)</p> <p>scalene (right-angled)</p> <p>Reasons: angle B is 90° and $AB = BC$ or angle $C = 45^\circ =$ angle A</p>	2	<p>A: 1 for both circled</p> <p>A: 1 for reasons</p>

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)	$a = 30^\circ$ $b = 150^\circ$ $c = 150^\circ$	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)	24m^2	1	A: 1
(v)	e.g. $x = 5\text{ m}$ and $y = 10\text{ m}$ or $x = 6\text{ m}$ and $y = 9\text{ m}$	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	

