



Order by Size

Mark Scheme 1

Level	IGCSE
Subject	Maths (0580)
Exam Board	Cambridge International Examinations (CIE)
Paper Type	Extended
Topic	Number
Sub-Topic	Order by Size
Booklet	Mark Scheme 1

Time Allowed: 60 minutes

Score: /50

Percentage: /100

Grade Boundaries:

A*	A	B	C	D	E	U
>85%	75%	60%	45%	35%	25%	<25%

1	3 3.14 $\frac{22}{7}$	2	B1 for 3.141[5...] to 3.1416 and 3.1428 to 3.1429 or 3.143 seen or SC1 for 4 in correct order
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2	0.34 0.7 ³ 0.6 ² $\sqrt{0.6}$	2	M1 for decimal conversion: 0.7 [7...] or 0.8 for $\sqrt{0.6}$ and 0.36 for 0.6 ² and 0.343 for 0.7 ³ or B1 for three in the correct order
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3	0.5 ³ 0.5 ² 0.5 $\sqrt[3]{0.5}$	2	B for 0.25, 0.125 and 0.793... seen or for three in correct order
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4	$2\frac{1}{2}\%$, 0.2, $\frac{43}{201}$, $\sqrt{0.1}$	2	B1 for 0.3..., 0.21... and 0.025 seen or for three in correct order
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5	19% 0.719 ⁵ $\sqrt{0.038}$ sin 11.4 1/5	2	B for decimals [0.19], [0.2], 0.194..., 0.197..., 0.192... seen Or for four in correct order
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6	tan 100, cos 100, 1/100, 100 ^{-0.1}	2	B for decimals -0.1[[7..], -5.[67..], [0.01], 0.6[3..] or for three in the correct order
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7	$\left(\frac{2}{3}\right)^{1.5} \left(-\frac{2}{3}\right)^{\frac{2}{3}} (1.5)^{\frac{2}{3}} \left(\frac{2}{3}\right)^{-1.5}$	2	M1 for at least 2 correct decimals seen 1.3[1..] 0.5[4..] 1.8[3..] or 1.84 0.7[6..]
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8	$\tan 25 < \sqrt{0.22} < 0.47 < \frac{8}{17}$	2	M1 correct conversion to decimals 0.466, 0.469, 0.471
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9	$x - 5 \quad \frac{x}{5} \quad \frac{5}{x} \quad 5x$	2	M1 evaluating all 4 expressions for one value in the range. (1 and 2 are out of range)
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10	$\cos 38 \quad \sin 38 \quad \sin 158 \quad \cos 158$	2	M1 correct decimals seen 0.3(74..) -0.9(271..) 0.7(88..) 0.6(15..)
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11	$0.9^3 \quad 0.9^2 \quad \sqrt{0.9} \quad \sqrt[3]{0.9}$	2	M1 0.94(8683...) 0.96(5489....) 0.8(1) 0.7(29)
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12	$4.93\% < \frac{20}{41} < 0.492 < \frac{80}{161}$	2	Allow decimal equivalents in answer space M1 decimals 0.48(78..), 0.496(8..), 0.0493
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13	$3.14 \quad \pi \quad \frac{22}{7} \quad \sqrt{10}$	2	M1 3.1428(...) and 3.16(2...) seen
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14	$2 - \sqrt{3}, 2 - \frac{\sqrt{3}}{2}, \frac{2}{\sqrt{3}}, \sqrt{3}$	2	M1 correct decimals seen
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15	$\frac{5}{7} \ 72\% \ \sqrt{\frac{9}{17}} \ \left(\frac{4}{3}\right)^{-1}$	2	M1 correct decimals 0.727(6...) 0.71(4...) 0.72 0.75
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16	$\frac{598}{601} \ \frac{399}{401} \ \frac{698}{701}$	2	M1 correct decimals seen 0.99501.... 0.9957(2...) 0.99500... First and third must be to at least 5sf Accept these decimals in answer space
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17	$x^2, \cos x^\circ, x^{-1}$	2*	W1 reverse order Numerical values not allowed in answer space
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18	$\tan 100, \cos 100, \sin 100$	2*	M1 for correct conversion to decimals -5.67, -0.174, 0.985 2sf or better SC1 all correct but reversed
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19	$1/125000, 8 \times 10^{-5}, 0.0008, 0.8\%$	2*	M1 changing any two correctly to a decimal or SIF
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20	$1/\sqrt{2}, \sin 47, \frac{3}{4}, \pi/4$	2*	M1 for correct conversion to decimals 0.78(53..) 0.70(71...) 0.75 0.73(13..)
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21 (a)	0.8^2	1	Allow 0.64
(b)	0.8^{-1}	1	Allow 1.25

22	$0.5^3 < 0.5^2 < \sqrt{0.5}$	2*	M1 for 0.25, 0.7... and 0.125 seen matched
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23	3/2500, 1/8, 0.00126	2*	M1 for all 3 evaluated as decimals (or fractions or percentages or stand. form) SC1 reversed order
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24	$0.049 < 5\% < 5/98$ o.e.	2	M1 for <i>figs</i> 51... seen after 0, SC1 for 2 correct entries	2
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25	$\frac{1}{1000}$, 0.11%, 0.0108, $\frac{11}{1000}$	2*	M1 for conversions into decimals, percentages, SIF or fractions with identical denominators
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