MASTER MATHS GCSE

GCSE Mathematics 9-1

Properties of 3D Shapes

(Non-Calculator)

Mark Scheme

Total available marks: 40

Q	Answer	Working	Mark
1(a)	Cylinder		1
1(b)	Cone		1
1(c)	(Square-based) pyramid	Accept pyramid	1
1(d)	(Triangular) prism	Accept prism	1
2	Cylinder		1
3	Cylinder and sphere	A cone has 1 vertex (the point) (1 mark for each)	2
4(a)	Sphere		1
4(b)	Cuboid	Do not accept cube	1
5(a)	2	The two circles at each end	1
5(b)	1	The curved surface around the side	1
6	Rectangles	*Also accept rectangles and squares*	1
7(a)	Face	A flat surface of the cube	1
7(b)	Edge	Where two faces meet	1
7(c)	Vertex	A corner, where edges meet	1
8	Cube	A cuboid has 6 faces, but only a cube has all square faces	1
9	Square-based pyramid	Accept pyramid	1
10(a)	6	Front, back, top, bottom, left, right	1
10(b)	12	4 on the front, 4 on the back, 4 joining them	1
10(c)	8	4 at the front and 4 at the back	1
11(a)	5	2 triangles and 3 rectangles	1
11(b)	9	3 on each triangle and 3 joining them	1
11(c)	6	3 on each triangle	1

Q	Answer	Working	Mark
12(a)	5	1 square base and 4 triangles	1
12(b)	8	4 round the base and 4 going up to the top	1
12(c)	5	4 on the base and 1 at the top	1
13	0	A sphere has one curved surface and no edges	1
14	Square-based pyramid	1 square and 4 triangles	1
15	Triangular-based pyramid: 4, 6, 4 Hexagonal prism: 8, 18, 12 Pentagonal prism: 7, 15, 10	1 mark for each correct row A prism with an n-sided end has n + 2 faces, 3n edges and 2n vertices	3
16	No, a triangular prism has 6 vertices but a square-based pyramid has 5		1
17	C	In C, two squares would end up on top of each other when folded	1
18	8	2 hexagon ends and 6 rectangles around the side	1
19(a)	1	The circle at the base	1
19(b)	1	The point at the top	1
20	Cube	6 squares	1
21	Triangular prism	2 triangles and 3 rectangles	1
22	Triangular prism		1
23	No, a cube has 12 edges (it has 6 faces)	4 on the front, 4 on the back and 4 joining them	1

Total available marks for this paper	**40**