Here are the answers to SET 4 of 100 GCSE Maths Geometry and Measures questions:

Mensuration and Calculation

1. 40 cm^2
2. 942 cm^3
3. 615.75 cm^2
4. 9.42 cm
5. 141.37 cm^2
6. 84.82 cm^3
7. 113.1 cm^2
8. 22 cm
9. 450 cm^3
10. 142 cm^2

Vectors

11. (8, 9)
12. 10
13. Yes, scalar multiples
14. 11
15. (4, 8)
16. (7, 8)
17. 90°
18. (0.8, -0.6)
19. (-2, 5)
20. (1, 5)

Properties and Constructions

21. Four equal sides, opposite equal angles, diagonals bisect each other at right angles

22. Construct equal sides with compass and connect points
23. Draw a line at right angles through midpoint
24. Triangles with two angles and included side equal are congruent (ASA)
25. 65°
26. Opposite sides equal, opposite angles equal, diagonals bisect
27. Diagonals are equal by congruent triangles
28. Draw bisector dividing angle into two equal parts
29. Enlarging by -2 reflects and scales shape by 2
30. Shape maps onto itself in four rotations (90°, 180°, 270°, 360°)

Angles and Triangles

31. 70°
32. 135°
33. 70°
34. 27.3 cm^2
35. Use sine rule
36. Use cosine rule
37. 8 cm
38. Yes ($6^2 + 8^2 = 10^2$)
39. 144°
40. 3240°

Circles and Circle Theorems

41. 43.96 cm
42. 14.14 cm
43. Angle equals angle in alternate segment
44. 7 cm
45. 64°
46. Right angle

47. $(x + 3)^2 + (y - 4)^2 = 25$
48. 14.13 cm^2
49. 12 cm
50. Opposite angles sum to 180°

Bearings and Coordinates

51. 45°
52. 8.06 units
53. 12.5 km
54. (6, 2)
55. (x, y) → (y, x)
56. $y = 2x - 4$
57. -3/4
58. (6, 8) is (3, 4) scaled by 2
59. (-3, 5)
60. (3, 4)

Perimeters and Areas

61. 42 cm
62. 96 cm^2
63. 30 cm^2
64. 32 cm
65. 127.23 cm^2
66. 69.12 cm
67. 153.86 cm^2
68. 48 cm^2, 48 cm
69. 42 cm
70. 216 cm^2

Volume and Surface Area

71. 565.49 cm^3
72. 375 cm^3
73. 678.58 cm^2
74. 523.6 cm^3
75. 615.75 cm^2
76. 600 cm^3
77. 3 cm
78. 188.5 cm^2
79. 352 cm^2
80. 13 cm

Transformations

81. (-3, 5)
82. (-4, 6)
83. (4, 5)
84. (3, 3), (9, 3), (6, 9)
85. (2, 6)
86. (3, -7)
87. All points
88. (7, 7)
89. 4 units right, scale × 2
90. (-5, -3)

Geometric Reasoning and Proof

91. Base angles opposite equal sides are equal
92. Interior angles of triangle sum 180° by parallel line properties
93. Parallelogram diagonals bisect by congruent triangles

94. Exterior angle equals sum of opposite interior angles by supplementary angles

95. Opposite angles of cyclic quadrilateral sum 180° by circle theorem

96. RHS congruence by hypotenuse and right angle equal

97. Rectangle diagonals equal by congruent triangles

98. Each angle 60° by equal sides and symmetry

99. Kite diagonals are perpendicular due to symmetry and side equality

100. Area proportional to square of sides by similarity ratio