GCSE Pythagoras Theorem Practice Questions

Note: Lengths given are typically in cm or meters unless otherwise specified.

Below are the 100 questions:

1. Find the length of the hypotenuse when the other two sides are 3 cm and 4 cm.
2. Calculate the missing side when the hypotenuse is 13 cm and one leg is 5 cm.
3. A triangle has sides 7 cm, 24 cm, and 25 cm. Is it right angled?
4. The legs of a right triangle measure 6 m and 8 m. What is the length of the hypotenuse?
5. Find the distance between points $(-6,2)$ and $(4,5)$.
6. A ladder leans against a wall. The base is 3 m from the wall, and the ladder is 5 m long. How high does it reach?
7. The hypotenuse of a triangle is 10 cm, and one leg is 6 cm. Find the other leg.
8. Check if the triangle with sides 10 cm, 6 cm, and 8 cm is right angled.
9. Find the hypotenuse of a right triangle with legs 9 cm and 12 cm.
10. A ship sails 6 km East, then 8 km North. Find the straight-line distance from the starting point.
11. Calculate the length of the diagonal of a rectangle with sides 15 cm and 20 cm.
12. A right-angled triangle has sides 5 cm and 12 cm. Find the hypotenuse.
13. Verify if sides 8, 15, and 17 form a right triangle.
14. Find the height of a triangle if the base is 24 cm and the hypotenuse is 25 cm.
15. Determine the third side of a triangle with hypotenuse 29 cm and one side 21 cm.
16. Find the distance between points $(2,3)$ and $(7,11)$.
17. A rectangle's sides measure 9 m and 40 m. Find its diagonal.
18. A triangle has sides 12 cm, 35 cm, and 37 cm. Is it right angled?
19. Calculate the hypotenuse when legs measure 7 cm and 24 cm.
20. Find the missing side of a right triangle with hypotenuse 41 cm and one leg 40 cm.

21. Determine the length of a diagonal in a square of side 10 cm.
22. A ladder 7 m long reaches a height of 6 m on a wall. How far from the wall is the base?
23. Check if the triangle with sides 9, 40, and 41 is right angled.
24. Calculate the diagonal of a rectangle 8 cm by 15 cm.
25. Distance between points (0,0) and (5,12).
26. A right triangle has legs of 14 cm and 48 cm. Find the hypotenuse.
27. Verify if a triangle with sides 5, 12, and 13 is right angled.
28. Find hypotenuse for legs 11 cm and 60 cm.
29. Calculate missing side when hypotenuse is 65 cm and one leg 33 cm.
30. Find the diagonal of a square whose side is 20 cm.
31. A wall is 9 m tall. A ladder 15 m long leans on it. How far from the wall is the ladder base?
32. Distance between points $(3, -4)$ and $(-1,2)$.
33. Find the side length of the triangle with legs 8 cm and 15 cm.
34. Is a triangle with sides 13, 14, and 15 right angled?
35. Calculate hypotenuse given legs 16 cm and 30 cm.
36. Find the missing side with hypotenuse 50 cm and side 14 cm.
37. Length of the diagonal of a rectangle 12 cm by 35 cm.
38. Distance from (1,2) to (10,30).
39. A triangle has legs 9, 40. Find the hypotenuse.
40. Is triangle sides 7, 24, 26 right angled?
41. Find the height of a triangle with base 28 cm and hypotenuse 35 cm.
42. Distance between (6,8) and (0,0).
43. Find the side opposite the right angle in a triangle with legs 12 cm and 5 cm.
44. Determine the length of hypotenuse when legs are 20 cm and 21 cm.
45. Check if side lengths 15, 20, 25 form a right triangle.
46. Calculate the ladder height if base is 5 m and ladder length is 13 m.
47. Distance from (4,4) to (10,10).
48. Find the hypotenuse of legs 1 cm and 1 cm.

49. Determine if sides 8, 15, and 17 make a right triangle.
50. Length of diagonal of a 7 by 24 cm rectangle.

51. Find the space diagonal of a cuboid with edges 3 cm, 4 cm, and 5 cm.
52. A ladder 15 m long leans against a wall. The base is 9 m from the wall. How high does the ladder reach?
53. Calculate the length of the diagonal of a square field whose side length is 70 m.
54. A right-angled triangle has one leg 36 cm and a hypotenuse of 60 cm. Find the missing leg.
55. The sides of a triangle are 10 cm, 24 cm, and 26 cm. Is this triangle right angled?
56. Find the distance between the points (2, 7) and (10, 15).
57. A rope is tied from the top of a pole to a point 8 m away from its base. If the rope length is 17 m, find the height of the pole.
58. The diagonal of a rectangular field measures 50 m. Its length is 46 m. Find its width.
59. Calculate the height a tree reaches if a ladder 13 m long is placed 5 m from its base.
60. The legs of a right triangle are in ratio 3:4 and the hypotenuse is 21 cm. Find the length of each leg.
61. A triangle has sides 9 cm, 40 cm, and 42 cm. Is the triangle right angled?
62. Find the diagonal of a rectangle with sides 20 cm and 21 cm.
63. Calculate the length of the hypotenuse when the legs are 30 cm and 40 cm.
64. Find the diagonal length of a square with area 81 cm^2.
65. Compare lengths 7, 24, and 25 cm. Does it form a right triangle?
66. A triangle has sides 12 cm, 35 cm, and 37 cm. Check if it satisfies Pythagoras theorem.
67. A ladder is placed against a wall 6 m high. The ladder base is 4 m from the wall. Find the ladder's length.
68. Distance between (0, 0) and (24, 7).
69. Find the length of diagonal of a rectangle measuring 9 m by 40 m.
70. You walk 5 km east, then 12 km north. What is your direct distance from the start?
71. Calculate the hypotenuse of a triangle with legs 15 cm and 20 cm.

72. A triangle has sides 13 cm, 14 cm, and 15 cm. Is it right angled?
73. Calculate the missing side of a right triangle with hypotenuse 34 cm and one leg 30 cm.
74. Determine if triangle with sides 21, 28, and 35 cm is right angled.
75. Find the diagonal of a rectangular floor measuring 25 m by 60 m.
76. Calculate the diagonal length of a square with side length 12 cm.
77. A triangle has sides 8 cm, 15 cm, and 17 cm. Verify if it is right angled.
78. Find the height of a triangle with base 20 cm and hypotenuse of 29 cm.
79. You travel 8 km west, then 15 km south. Find the shortest distance back to the start.
80. The diagonal of a square is $16\sqrt{2}$ cm. Find the side length.
81. Find the distance between points (3, 4) and (9, 12).
82. A triangle has legs in ratio 5:12 and hypotenuse 13 units. Find the length of the shorter leg.
83. Find the hypotenuse of a triangle with legs 56 cm and 33 cm.
84. Calculate the missing side if hypotenuse is 50 cm and one leg is 24 cm.
85. The diagonal of a rectangle is 65 m and one side is 25 m. Find the other side length.
86. Check if the triangle with sides 20 cm, 21 cm, and 29 cm is right angled.
87. Find the length of the diagonal of a rectangle with sides 48 cm and 55 cm.
88. Distance from (2, -3) to (12, 15).
89. A triangle has sides 9 m, 40 m, and 41 m. Is it right angled?
90. Calculate hypotenuse length if legs are 9 cm and 12 cm.
91. A ladder leans against a wall 24 m high. The ladder length is 26 m. How far is the base from the wall?
92. The legs of a right triangle are 5 cm and 12 cm in length. Find the hypotenuse.
93. Find the diagonal of a rectangular prism with edges 2 m, 3 m, and 6 m.
94. Calculate the missing side length when hypotenuse is 13 cm and one leg 12 cm.
95. Check if triangle with sides 5, 12, and 13 is right angled.
96. Calculate diagonal of square with area 100 m^2.
97. Find the direct distance between (11, 15) and (4, 9).
98. Calculate hypotenuse length for triangle with legs 8 m and 15 m.

99. A ladder reaches a height of 24 m leaning against a wall. Its base is 7 m from the wall. How long is the ladder?

100. Find the diagonal length of a cuboid measuring 6 cm by 8 cm by 10 cm.