

CLASS 9 · HOTS · OLYMPIAD PREPARATION · DPP SHEET

# Chapter 1: HOTS: Orienting Yourself, the Coordinate Plane (Class 9)

Daily practice problems: 8 questions with an answer key

Try every question on your own first. The answer key is on the last page.

1. Find the distance between  $(-1, 7)$  and  $(4, -5)$ .
2. Find the point on the x-axis which is equidistant from  $(2, 3)$  and  $(4, -1)$ .
3. Show that the triangle with vertices  $(1, 1)$ ,  $(4, 1)$  and  $(4, 5)$  is right-angled.
4. The point  $(a, a - 1)$  is 5 units from the origin. Find the possible values of  $a$ .
5. Find the perimeter of the triangle with vertices  $(0, 0)$ ,  $(8, 0)$  and  $(4, 3)$ .
6. Find the distance of the point  $(-6, 8)$  from the origin.
7. Find the values of  $x$  for which the distance between  $(x, 3)$  and  $(1, -1)$  is 5.
8. Are the points  $(1, 1)$ ,  $(2, 3)$  and  $(3, 5)$  the vertices of a triangle?

## Answer Key

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1. 13 units.
2.  $(1, 0)$ .
3. The sides are 3, 4 and 5, and  $3^2 + 4^2 = 5^2$ .
4.  $a = 4$  or  $a = -3$ .
5. 18 units.
6. 10 units.
7.  $x = 4$  or  $x = -2$ .
8. No.  $\sqrt{5} + \sqrt{5} = \sqrt{20}$ , so the three points lie on one straight line.

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