Worksheet: Introduction to Three Dimensional Geometry

Maharashtra State Board · Class 11 · Mathematics · 8 questions · 25 marks

Name: _____ Date: _____ Score: _____ / 25

Q1. A point has coordinates (0, -5, 3). Which coordinate plane does it lie in, and which octant would a point with all three coordinates negated from this one lie in? *[2 marks]*

Q2. Name the octant in which the point (-2, 5, -8) lies. *[2 marks]*

Q3. Find the midpoint of the segment joining (2, -3, 6) and (-4, 5, 0). *[2 marks]*

Q4. Find the distance between the points A(1, 2, 3) and B(4, 6, 3). *[3 marks]*

Q5. Show that the points (2, -1, 3), (5, -5, 12), and (-1, 3, -6) are collinear. *[4 marks]*

Q6. Two vertices of a triangle are (3, -2, 4) and (-1, 6, 0), and its centroid is (2, 1, 3). Find the third vertex. *[4 marks]*

Q7. Find the distance of the point (3, -4, 5) from the origin. *[3 marks]*

Q8. Show that the points A(1, 2, 3), B(-1, -2, -1), and C(2, 3, 2) form a right-angled triangle by computing all three side lengths. *[5 marks]*