**JNV**

**MODEL QUESTIONS**

**MATHEMATICS: 7 COORDINATE**

**Class : X**

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| 1 | Find the distance between the points, C:\fake\image1.pngand C:\fake\image2.png. |  | 1 |
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|  | ANS:     Distance between C:\fake\image3.png |  |  |
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| 2 | Find the coordinates of the centroid of a triangle whose vertices are (0, 6), (8, 12) and (8, 0). |  | 1 |
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|  | ANS:     Coordinates of the centroid of a triangle whose vertices are (x1, y1), (x2, y2), (x3, y3) are C:\fake\image4.png  C:\fake\image5.png |  |  |
|  |  |  |  |
| 3 | Find the area of triangle formed by the points P(2, 1), Q(6, 1) and R(2, 4). |  | 1 |
|  |  |  |  |
|  | ANS:     Area of the triangle formed by the given points C:\fake\image6.png |  |  |
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| 4 | Show that the points P C:\fake\image7.pngQ(6, –2) and R(–3, 4) are collinear. |  | 1 |
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|  | ANS:     If [x1(y2 – y3) + x2(y3 – y1) + x3(y1 – y2)] = 0 then points are collinear. C:\fake\image8.pngC:\fake\image9.pngP, Q and R are collinear. |  |  |
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| 5 | Find the distance of point (h, k) from the x-axis. |  | 1 |
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|  | ANS:     Distance of the point (h, k) from x-axis is positive value of y coordinate, hence |k|. |  |  |
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| 6 | Find the area of the triangle formed by the points (1, –4), (3, –2) and (–3, 16). |  | 1 |
|  |  |  |  |
|  | ANS:     Area of the C:\fake\image10.png = C:\fake\image11.png|1(–2 – 16) + 3(16 + 4) + (–3)(–4 + 2)| = C:\fake\image12.png|–18 + 60 + 6| = 24 sq. units |  |  |
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| 7 | Show that the points A (a, a), B (– a, – a) and C C:\fake\image13.pngform an equilateral triangle. | 2 |
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|  | ANS:     AB = C:\fake\image14.png BC = C:\fake\image15.png AC = C:\fake\image16.png Since AB = BC = AC.  C:\fake\image17.pngΔABC is equilateral. |  |
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| 8 | Find the value of p for which the points (–1, 3), (2, p) and (5, –1) are collinear. | 2 |
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|  | ANS:     C:\fake\image18.png  P(–1, 3), Q(2, p) and C(5, –1) are collinear C:\fake\image19.png  x1(y2 – y3) + x2(y3 – y1) + x3(y1 – y2) = 0 C:\fake\image20.png–1{p – (–1)} + 2(–1 – 3) + 5(3 – p) = 0 C:\fake\image21.png–1(p + 1) + 2(–4) + 5(3 – p) = 0 C:\fake\image22.png–p – 1 – 8 + 15 – 5p = 0  C:\fake\image23.png–6p + 6 = 0 C:\fake\image24.png–6p = –6 C:\fake\image25.pngp = 1 |  |
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| 9 | Find the point on x-axis which is equidistant from the points (2, – 5) and (–2, 9). | 2 |
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|  | ANS:     Let point on x-axis be P(a, 0) and given that A(2, –5) and B(–2, 9) are equidistant. C:\fake\image26.png  PA = PB C:\fake\image27.pngC:\fake\image28.png Squaring both sides, we get a2 + 4 – 4a + 25 = a2 + 4 + 4a + 81 –8a = 56  a = –7 |  |
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