Practice Questions for Co-Ordinate Geometry

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| Question | In which quadrant does the point(-4, -7) lie? |
| Option A | 1st |
| Option B | 2nd |
| Option C | 3rd |
| Option D | 4th |
| Answer | Option C |
| Explanation | **The point (-4, -7) lies in 3rd quadrant.** |

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| Question | Find the distance of the point A(4, -4) from the origin. |
| Option A | 3 |
| Option B | 2 |
| Option C | 6 |
| Option D | 8 |
| Answer | Option D |
| Explanation | **OA = √42+(-4)2 = √16+16 = √32 = 8√2** |

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| Question | A is a point on y-axis at a distance of 5 units from x-axis lying below x-axis. The co-ordinates of A are: |
| Option A | (5, 0) |
| Option B | (-5, 0) |
| Option C | (0, 5) |
| Option D | (0, -5) |
| Answer | Option D |
| Explanation | **The co-ordinates of A are A(0, -5)** |

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| Question | Find the distance of the point A(4, -2) from the origin. |
| Option A | 4√5 units |
| Option B | 2√5 units |
| Option C | 5√2 units |
| Option D | 7√2 units |
| Answer | Option B |
| Explanation | **OA = √4 - 02+(-2 - 0)2 = √16+4 = √20 = radic;4\*5 = 2√5 units** |

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| Question | If the distance of the point P(x, y) from A(a, 0) is a + x, then y2 = ? |
| Option A | 8ax |
| Option B | 6ax |
| Option C | 4ax |
| Option D | 2ax |
| Answer | Option C |
| Explanation | **√(x-a)2+(y-0)2 = a + x   = (x-a)2+y2   = (a+x)2 => y2 = (x-a)2-(x-a)2-4ax => y2 = 4ax** |

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| Question | The points A(-4, 0), B(1, -4), and C(5, 1) are the vertices of |
| Option A | An isosceles right angled triangle |
| Option B | An equilateral triangle |
| Option C | A scalene triangle |
| Option D | None of These |
| Answer | Option A |
| Explanation | **AB2 = (1 + 4)2 + (-4 - 0)2   = 25 + 16 = 41,   BC2 = (5 - 1)2 + (1 + 4)2 = 42 + 52  = 16 + 25 = 41   AC2 = (5 + 4)2 + (1 - 0)2   = 81 + 1 = 82   AB = BC and AB2 = BC2 = AC2   ΔABC is an isosceles right angled triangle** |

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| Question | Find the value of k for which the points A(-2, 5), B(3, k) and C(6, 1) are collinear. |
| Option A | 5 |
| Option B | 7 |
| Option C | 4 |
| Option D | 1 |
| Answer | Option A |
| Explanation | **x1 = -2, x2 = 3, x3 = 6 and y1 = 5, y2 = k, y3 = -1   Now Δ = 0 <=> -2(k + 1) + 3(-1 + 5) + 6(5 - k) = 0         <=> -2 (k+1) + 3(4) + 6(5-k) = 0         <=> -2k-2 + 12+30 -6k = 0         <=> 40 - 8k = 0         <=> -8k = -40         <=> k = 5.** |

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| Question | If the A(2, 3), B(5, k), and C(6, 7) are collinear, then k = ? |
| Option A | 11 |
| Option B | 12 |
| Option C | 18 |
| Option D | 6 |
| Answer | Option D |
| Explanation | **x1 = 2, x2 = 5, x3 = 6 and y1 = 3, y2 = k, y3 = 7   Now Δ = 0 <=> 2(k - 7) + 5(7 - 3) + 6(3 - k) = 0         <=> 1/2 [2 (k-7) + 5(4) + 6(3-k)] = 0         <=> 2k - 14 + 20 + 18 - 6k = 0         <=> 24 - 4k = 0         <=> 4k = 24         <=> k = 6.** |

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| Question | Find the co-ordinates of the centroid of ΔABC whose vertices are A(7, -3), B(5, -4) and C(-3, -5)? |
| Option A | 3, -3 |
| Option B | 4, -4 |
| Option C | 3, -4 |
| Option D | None of these |
| Answer | Option C |
| Explanation | **x1 = 7, x2 = 5, x3 = -3 and y1 = -3, y2 = -4, y3 = -5   = [(7 + 5 - 3)/3, (-3 - 4 - 5)/3]   = (12-3)/3, -12/3)   = (9/3, -12/3)   = (3, -4)** |

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| Question | The co-ordinates of the end points of a diameter AB of a circle are A(-6, 8) and B(-10, 6). Find the co-ordinates of its centre. |
| Option A | -8, 7 |
| Option B | -7, 8 |
| Option C | 7, -8 |
| Option D | -8, -7 |
| Answer | Option A |
| Explanation | **The center O is the mid point of AB.   Co-ordinates of O are [(-6-10)/2, (8+6)/2]   = -16/2, 14/2   = (-8, 7)** |

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| Question | Find the co-ordinates of a point P which divides the join of A(5, -4) and B(10, 8) in the ratio 3 : 2 |
| Option A | 9, 5 |
| Option B | 7, 8 |
| Option C | 8, 7 |
| Option D | 9, -7 |
| Answer | Option C |
| Explanation | **Required point is P = (mx2 + nx1)/m+n, (my2 + ny1)/m+n   P((3(10) + 2(5))/5, (3(15) + 2(-5))/5)   =(30 + 10)/5, (45-10)/5   = P(8, 7)** |

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| Question | The end points of a line segment AB are A(-6, 4) and B(12,24). Its midpoint is: |
| Option A | (14, 4) |
| Option B | (-4, 14) |
| Option C | (3, 14) |
| Option D | (-3, 14) |
| Answer | Option C |
| Explanation | **Midpoint is C((-6+12)/2, (4+24)/2)   (-6/2, 28/2) = (-3, 14)** |

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| Question | The vertices of a quadrilateral ABCD are A(0, 0), B(3,3), C(3, 6) and D(0, 3). Then , ABCD is a |
| Option A | Square |
| Option B | Rectangle |
| Option C | Rhombus |
| Option D | Parallelogram |
| Answer |  |
| Explanation | **Answer: Option 'B'  AB2 = (3-0)2 + (3-0)2 = 18   BC2 = (3-3)2 + (6-3)2 = 9   CD2 = (0-3)2 + (3-6)2 =18   AD2 = (0-0)2 + (3-0)2 = 9   AB = CD = √18 => 3√2,   BC = AD = √9   AC2 = (3-0)2 + (6-0)2 = 9 + 36 = 45   BD2 = (0-3)2 + (3-3)2 = 9 + 0 = 9   AC ≠ BD   ABCD is a parallelogram.** |

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| Question | If for a line m = tan < 0, then |
| Option A | is acute |
| Option B | is obtuse |
| Option C | = 90 |
| Option D | = 60 |
| Answer | Option B |
| Explanation | **m = tan < 0 => is obtuse** |

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| Question | If for a line m = tan > 0, then |  |
| Option A | is acute |  |
| Option B | is obtuse |  |
| Option C | = 90 |  |
| Option D | = 60 |  |
| Answer | Option B |  |
| Explanation | **m = tan < 0 => is acute** |  |