Hi Harris,

Its a good performance.
In few questions, you had not answered for the exact question asked.
So, please read the question twice before answering.
It's very important because, the way you solve is absolutely perfect but if you are not answering to the exact question, it will definitely affect your score.
I don't want that happen, so please check the question before answering.
Then, you had answered few questions without simplifying.
Like, $\sqrt{50} = 5\sqrt{2}$.
This is not a big problem, Here we don't have the choices, so you can give the answer without simplifying but in GRE, we need to simplify, so as a practice for that, while solving the problems in the tutorials, do simplify the solutions and send.
Other than these two points, you are doing really good.
I am happy, that you follow my suggestions and implementing in solving the next tutorial.
Study well.

Regards
Saranya

Co-ordinate Geometry Part I Quiz Solution

1. In the figure on the previous page, identify the coordinates of the following points:

- **B= (-2,4)**
- **C= (4,6)**
- **D= (2,3)**
- **E= (3,2)**
- **G= (-3,-3)**
- **I= (-2,-5)**
- **K= (6,-1)**
- **M= (5,-4)**

2. In the figure below, length of AB = 8. AB is parallel to X axis. Identify the co-ordinates of point B.
A(-6,3) B = (2,3)

3. In the figure below, length of AB = 8. AB is parallel to Y axis. Identify the co-ordinates of point B.

A(1, 10)
B (1,2)

4. In the figure below, length of OB = 8. OB makes an angle of 45° with the X axis. Identify the co-ordinates of point B.
The values are obtained by dropping a Perpendicular line from pt. B on x axis. The triangle so obtained is a Rt. angled triangle hence using the Pythagorean theorem, z2 = x2 + y2. the co ordinates of Pt. B is (√32, √32).

Therefore, it is B(4√2 , 4√2)

5. In the figure below, radius of the circle is 8. E is the center and AC and BD are diameters
Determine the co-ordinates of:
- **A (-8,0)**
- **B (0,-8)**
- **C (-8, -16)**
- **D (-16,-8)**
- **E (-8,-8)**

Co-ordinate Geometry Part II Quiz Solution

Guess :

1) What is the distance of a point that lies on the Xaxis from the X-axis itself ?
is equal to Y=0
It means, the distance = 0

2) What is the distance between a point (x,y) and Yaxis?
Is equal to x

3) What is the distance between the point (x,0) and the point (0,y)?
$\sqrt{(x-0)^2 + (0-y)^2} = \sqrt{(x)^2+(-y)^2}$
4) Let P be any point in the plane. If you join all the points which are at equal distance say 'd' from the point P, then which shape will you obtain?
A circle with radius d

1) Find the distance of each of the following points from the X-axis
a) (1,2) =2
b) (3,-10) = 10

c) (-11,0) = 0
d) (-8,-5) = 5
e) (0,8) = 8

2) Find the distance of each of the following points from the Y-axis.
a) (3,9)= 3
b)(-8,2)=8
c)(7,0)=7
d)(0,0)=0
e) (0,-12)= 0

3)Compare the following :

Col A = Distance of a point on the X-axis from the X-axis.
Points in the Col A have coordinates (x, 0)
The question requires you to find the distance, Here the distance = 0
Col B = Distance of a point on the Y-axis from the X-axis.
Points in the Col B have coordinates (X, 0)
The point on the Y-axis will be (0, y) from X-axis means, the distance is |y|
|y| is greater than zero, but if the point on Y-axis is on the origin, then the distance will be zero.

Hence, the relation cannot be determined.

Hence Col A and Col B have points on the same line

4) Find the distance between the following points
a) (5,1) and (5,-8)= $\sqrt{(5-5)^2 + (1-(-8))^2} = \sqrt{0 + 81} = 9$
b) (6,7) and origin= $\sqrt{6^2 + 7^2} = \sqrt{36+49} = \sqrt{85}$
c) (7,4) and (-4,2)= $\sqrt{121 + 4} = \sqrt{125} = 5\sqrt{5}$
d) **origin and (-5 ,5) = $\sqrt{25 + 25} = \sqrt{50} = 5\sqrt{2}$**

5) Let P(x, y) and Q(y, x) be two points in the XY plane.
Col A: Distance between the point P and origin.= $\sqrt{x^2+y^2}$
Col B: Distance between the point Q and origin. = $\sqrt{y^2+x^2}$
Compare Col A and Col B
Both col A and Col B are at a same distance

6) If P=(2,6) and Q = (-3,4) and let M be the midpoint of the segment PQ , then find the following
a) Distance between the points P and Q. = $\sqrt{5^2 + 2^2} = \sqrt{29}$
b) Distance of point M from the X –axis = -0.5
Point M is (-0.5 , 5), the distance between the point M from the X-axis will be the |y| = 5
c) Distance of point M from the Y-axis= 5

Point M is (-0.5 , 5), the distance between the point M from the Y-axis will be the |x| = 0.5
d) Distance between the point M and origin. = √25.25

7) Find the perimeter of the triangle formed by the points (1,3), (2,6) and (-1,-1) .
Let A= (1,3), B= (2,6) & C= (-1,-1)
AB= $\sqrt{(1-2)^2+(3-6)^2} = \sqrt{10}$, AC= $\sqrt{(1+1)^2+(3+1)^2} = \sqrt{17}$ its √20 (check your calculation before answering) and
BC= $\sqrt{(2+1)^2+(6+1)^2} = \sqrt{58}$
Perimeter = AB+AC+BC = √10+√17 (its √20)+√58

8) The two vertices of a right angle triangle are (1, 1) and (4,1) and the length of the hypotenuse is 5. The 3rd vertex of the triangle lies in the 1st Quadrant. What are the possible coordinates of this point ?
Distance between known vertex = $\sqrt{(4-1)^2 + (1-1)^2} = 3$
Based on Pythagorean theorem
Z2=x2+y2
$5^2 = 3^2 + y^2$
$y^2 = 25-9$
$y^2 = 16$
y= 4
The possible co-ordinates in the first quadrant is either (1,5) or (4,5)

9) If (1,1) , (1,4) and (1,-1) are the vertices's of the rectangle then find the following:
a)fourth vertex of the rectangle
Data incorrect all the three vertices's have same x coordinates hence they form just points in a line and not vertices's of rectangle
b) perimeter of the rectangle
Data incorrect all the three vertices's have same x coordinates hence they form just points in a line and not vertices's of rectangle
c)the diagonal of the rectangle.
Data incorrect all the three vertices's have same x coordinates hence they form just points in a line and not vertices's of rectangle

You are correct, the option to be selected is cannot be computed.
If the 2nd point is (4,1) we will get the answer for all the 3 sub divisions.

10)Find the area of the triangle formed by the three points A(-1,-1), B(-1,5) and C(7,-1).
AB= $\sqrt{(-1- -1)^2+(-1-5)^2} = \sqrt{36} = 6$
AC= $\sqrt{(-1- 7)^2+(-1--1)^2} = \sqrt{64} = 8$
BC= $\sqrt{(-1- 7)^2+(5--1)^2} = \sqrt{100} = 10$

Area of triangle = ½ x Ht. x Base

= 1/2x6x8

=24