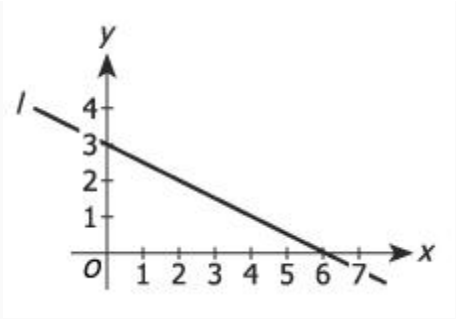
1



All points (x,y) that lie below the line l, shown above, satisfy which of the following inequalities?

A. y < 2x + 3
B. y < -2x + 3
C. y < -x + 3
D. y < 1/2*x + 3
E. y < -1/2*x + 3

2

Points X, Y, and Z are located on the rectangular coordinate plane at points (2; 3), (-4; 3), and (2; -3), respectively. What is the length of line segment YZ?

A. 6
B. 6*root(2)
C. 7
D. 8
E. 9

3

In the coordinate plane, rectangular region R has vertices at (0,0), (0,3), (4,3), and (4,0). If a point in region R is randomly selected, what is the probability that the point's y-coordinate will be greater than its x-coordinate?

A. 7/12
B. 5/12
C. 3/8
D. 1/3
E. ¼

4

In the xy plane, each point on the circle k has non negative coordinates and the center of k is the point (4,7). What is the max possible area of K?

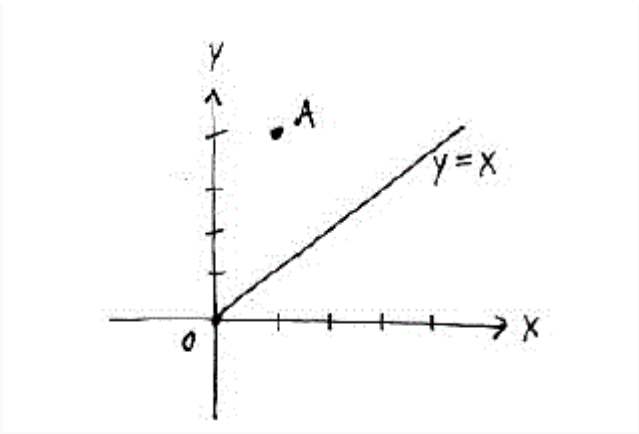
A. 4pi
B. 9pi
C. 16pi
D. 28pi
E. 49pi

5

In the rectangular coordinate system, points (4, 0) and (– 4, 0) both lie on circle C. What is the maximum possible value of the radius of C ?

(A) 2
(B) 4
(C) 8
(D) 16
(E) None of the above

6



In the rectangular coordinate system above, the line y = x is the perpendicular bisector of segment AB (not shown), and the x-axis is the perpendicular bisector of segment BC (not shown). If the coordinates of point A are (1, 4), what are the coordinates of point C?

A. (-4, -1)
B. (-1, 4)
C. (4, -1)
D. (1, -4)
E. (4, 1)