**HOWARD UNIVERSITY  
Department of Mathematics  
College Algebra I  
Spring 2023**

**Test#3 Show All your work. No works! No Credits**

***Question#1 (20pts)*** Solve the inequality for **x.**

1. **3x -7 > 14**.
2. **9>= 24 – 5x**

Simplify your answer as much as possible.

***Question#2*** **(15pts)** Graph the solution to the inequality on the number line, write the solution in the set builder notation. Write the interval notation of the solution.

1. **|u + 3| < 5**
2. **|y - 7| < 8**

***Question#3 (20pts)***

1. Find the midpoint of the line segment joining the points **P= (-5,5)** and Q**=(-1,3)** .
2. Find the distance between the points **P = (3, 2)** and **Q= (3, 7).**

***Question#4 (20 pts)***

Find the -intercept(s) and -intercept(s) of the graph of the following.   
**25x^2+9y^2 = 1**

If there is more than one answer, separate them with commas.

***Question#5(15pts)***

1. The equation of a circle is given below. Identify the radius and the center. Then graph the circle.
2. Find an equation of the circle whose diameter has endpoints (1, 3) and (6,3).

***Question#6(10pts)***

Graph the parabola.