Module Review on Circles and Systems

1. Write the equation of $\odot B$ with center $B(-2,3)$ that passes through $(1,2)$.

2. Find the center and radius of $x^2 + y^2$+2x-10y+10=0

3. Solve the following system: -8x + 4y = 32

y+3 = (x + 4) ^{2}

#'s 4-6 Solve the following system of equations.

$$\begin{aligned} -4x - 5y - z &= 18 \\ -2x - 5y - 2z &= 12 \\ -2x + 5y + 2z &= 4 \end{aligned}$$

$$\begin{aligned} 4x + 4y + z &= 24 \\ 2x - 4y + z &= 0 \\ 5x - 4y - 5z &= 12 \end{aligned}$$

$$\begin{aligned} x - 6y + 4z &= -12 \\ x + y - 4z &= 12 \\ 2x + 2y + 5z &= -15 \end{aligned}$$

7.

The state fair is a popular field trip destination. This year the senior class at High School A and the senior class at High School B both planned trips there. The senior class at High School A rented and filled 8 vans and 8 buses with 240 students. High School B rented and filled 4 vans and 1 bus with 54 students. Every van had the same number of students in it as did the buses. Find the number of students in each van and in each bus.

8. Twitter and Hot Spot brought apples, bananas, and oranges to a fruit sale. The bananas were sold for $0.50 each, while the apples and oranges were sold for $0.75 each. They sold 50 pieces of fruit and earned $33.50 total. If Twitter and Hot Spot sold twice as many bananas as oranges, how many apples did they sell? Show your work.

9. Suppose you kick a football and its movement can be modeled by a parabola. After 1 second its height is 15 feet above ground, after 2 seconds its height is 14 feet above ground, and after 3 seconds its height is 9 feet above ground.

a) Find the equation of the parabola that models this behavior.
b) After how many seconds does the ball hit the ground?