

Name: _____

Algebra 2: Midterm Review Part 2 Short Answer (4pts. Each)

1. Solve for r . $V = \frac{2}{3}\pi r^3$

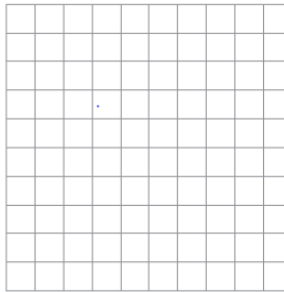
2. Solve the inequality, then graph the solution: $4x - 5 \geq 17$



3. Solve the inequality, then graph the solution: $|3x - 2| \geq 5$



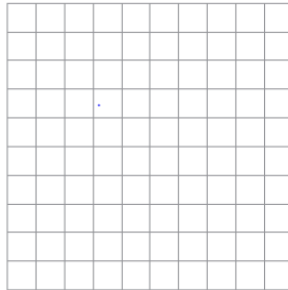
4. Graph: $2x + 5y < 10$



5. Find the vertex of the graph: $y = |x + 2| - 3$

6. The drama club sold 250 tickets for the end-of-year performance. Admission prices were \$10 for adults and \$7 for students. The total amount collected at the box office was \$1900. How many students attended the play?

7. Graph the system of inequalities: $3x - 7y > 21$
 $x \leq 8$



8. Perform the matrix operation: $\begin{bmatrix} -3 & 2 \\ 5 & 6 \\ 2 & 3 \end{bmatrix} \begin{bmatrix} 4 & 2 \\ -3 & 1 \end{bmatrix}$

9. Solve the system using Cramer's Rule or Inverse Matrices: $3x + y = 8$
 $5x + 2y = 11$

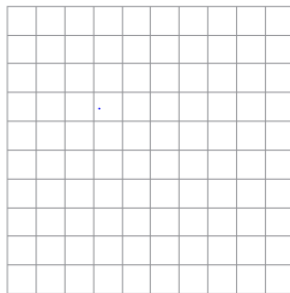
10. Solve the equation: $\frac{1}{4}x^2 - 5 = 20$

11. Solve the equation: $4x^2 + 2x - 5 = 0$

12. Write the expression in standard form: $\frac{3+i}{2-3i}$

13. Niagara Falls in New York is 235 feet high. How long does it take the water to fall from the top to the bottom of Niagara Falls? ($h = -16t^2 + h_0$)

14. Graph the inequality: $y > x^2 + x - 2$



15. Solve: $81x^2 - 36 = 0$