

Homework 11

Record your answers to all of the problems in the EMCF titled “**Homework 11.**”

Problems 1 – 8: For each equation, determine which description listed below best describes the graph of the equation. Note: the answer choices given may be used more than once or not at all.

- A. Circle
- B. Ellipse
- C. Parabola
- D. Hyperbola
- E. Point
- F. Two intersecting lines
- G. One line
- H. No graph

1. $5x^2 + 2y^2 - 27x + 16y - 19 = 0$
2. $\frac{(x-2)^2}{5} + \frac{(y-5)^2}{5} = 1$
3. $4x^2 - 9y^2 = 0$
4. $3x^2 + 12y^2 - 9x + 12y - 9 = 0$
5. $(x-1)^2 + (y-3)^2 = 0$
6. $x^2 + 5y^2 = -8$
7. $x = y^2 - 4y + 7$
8. $-3(y-2)^2 + 12(x+1)^2 = 72$
9. Problem 8.1.60
 - A. $(-12, 86)$ and $(2, 0)$
 - B. $(-6, 56)$ and $(4, -14)$
 - C. $(6, -28)$ and $(-4, 42)$
 - D. $(12, -58)$
10. Solve the system of equations: (Hint: Sketch first)

$$\frac{(y+3)^2}{4} - \frac{(x-2)^2}{25} = 1$$

$$x = -10(y+3)^2 + 2$$
 - A. $(-3, 2)$
 - B. $(2, -3)$
 - C. $(7, -3)$ and $(-3, -3)$
 - D. $(2, -1)$ and $(2, -5)$
 - E. No solution

In problems 11 – 15, determine the number of points of intersection for the system. (Hint: graph the system.) Note: the answer choices given may be used more than once or not at all.

- A. 0 B. 1 C. 2 D. 3 E. 4

11. $x^2 + y^2 = 25$
 $x + y = 8$

12. $\frac{x^2}{4} - \frac{y^2}{4} = 1$
 $x + y^2 = 8$

13. $(x-1)^2 + (y-3)^2 = 4$
 $y = x$

14. $\frac{x^2}{9} + \frac{y^2}{25} = 1$
 $y = (x-3)^2$

15. $x^2 + 6x + y^2 - 4y = -4$
 $4x^2 + 24x + 25y^2 - 50y = 39$