Math 1 Semester One Practice Final Problems

Chapter 1
Solve for the variable

1. $bc - ae = g$ solve for c

2. $-2y + 5 + 5y = 14$

3. $\dfrac{2b}{5} - \dfrac{3b}{4} = 3$

4. $|x - 7| = 12$

5. $7(4 - a) = 3(a - 4)$

6. Solve and graph on a number line

$$8 > -2 - 5y$$

7. Solve and graph on a number line

$-5z - 3 < -13$

8. $m = \dfrac{5}{dx} + e$ solve for x

9. The sum of three consecutive integers is 105. Find the middle of these three integers.

10. A movie club offers two plans. Plan A charges $40 to sign up for the plan and $8 for each movie ticket. Plan B charges $67 to sign up for the plan and $5 for each movie ticket. How many movie tickets would someone need to buy for the plans to have the same total cost?

11. Given (-1, 1) and (3, 9) find the slope of the line between the two points

12. Given $3x + 12y = 24$, find the x and y intercepts and graph.
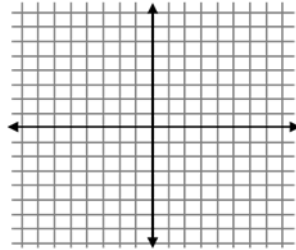
X int = (,) Y int = (,)

13. Given Through the points (2, 1) and (4, 9), find the equation of the line in point slope form

14. Given the line $y = \frac{1}{5}x - 3$, find the slope of the line that is

a. parallel to the line   b. perpendicular to the line

15. Find the equation of the line in point slope form that passes through the point (4, 2) and is

a. parallel to the line y = -3x+4   b. perpendicular to the line y = -3x+4

16. You are reading a book and you currently have 300 pages left to read. You are able to read 15 pages each hour. Write an equation that represents how many pages (y) you will have left to read after x hours. Use your equation to find how many hours until you have finished reading your book.
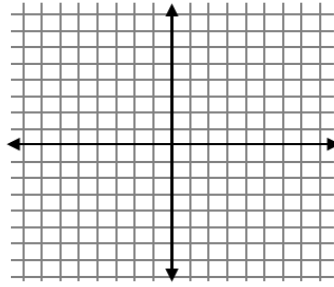
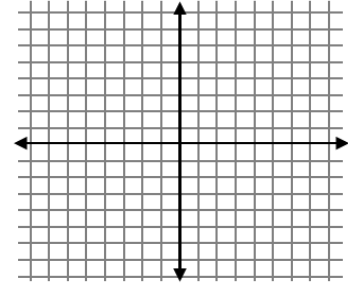**Math 1 Semester One Practice Final Problems**
Chapter 2
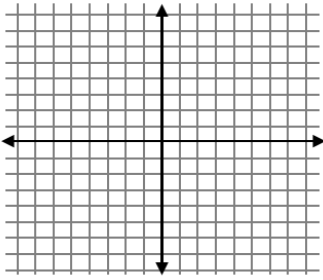
17. Graph $2x + 3y = 12$ 18. Graph $y = -3x -1$ 19. Graph $x = 4$
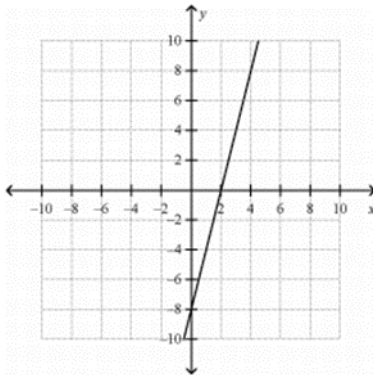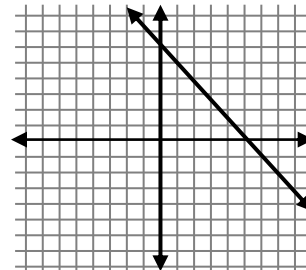
20. Find the equation of the line in slope intercept form

a.

b.

21. Given $4x + 2y = 10$, put in slope intercept form.

Chapter 3

22. Determine which sequences are arithmetic or geometric and the common difference or ratio

a. 44, 40, 36, 32,………   Arithmetic/geometric? _____ d or r = _____

b. 2, 6, 18, 54, 162,……   Arithmetic/geometric? _____ d or r = _____

c. 4, -8, 16, -32, 64,……   Arithmetic/geometric? _____ d or r = _____

d. -5, 0, 5, 10, 15,…….   Arithmetic/geometric? _____ d or r = _____

Chapter 3

Given 3, 9, 15, 21, 27, …… Find

23. the recursive formula   24. the explicit formula   25. a_{75}

Given 3, 12, 48, 192, …… Find

26. the recursive formula   27. the explicit formula   28. a_{19}

29. A hot air balloon is currently at a height of 900 feet. The balloon is descending by 10 feet minute. Find a function for the balloon's height after x minutes
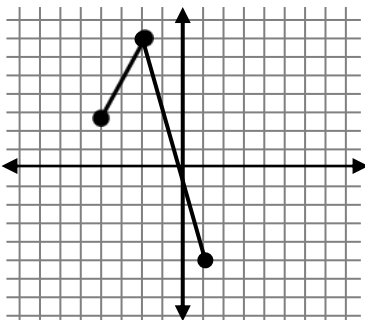
30. $f(x) = 6x + 5$, find f (-4)

31. Create a table that

a. is a relation but NOT a function   b. is a function

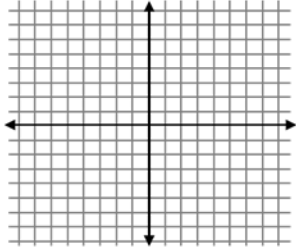32. Given the graph, find the   a. Domain   b. Range
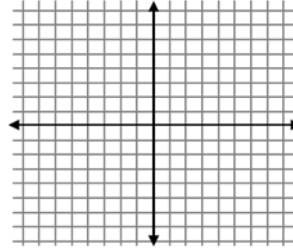
Solve the system of equations by graphing

33. $y = -2x - 4$

$y = \frac{1}{2}x + 6$

34. $y = 3x + 2$

$2y = 6x + 4$

Solve by either elimination or substitution.

35. $2x + 3y = 12$

$5x - y = 13$

36. $x + 4y = 16$

$y = -2x - 3$

37. $3x + 4y = 10$

$x = 2y - 6$

38. $3x + 2y = -5$

$5x + 3y = -6$

39. A water tank currently has 130 gallons of water and is being filled by 10 gallons every hour. A second water tank currently has 280 gallons of water and is being drained by 5 gallons every hour. After how many hours will the two tanks have the same amount of water? Show your equations.

Math 1 Semester One Practice Final Problems
**Chapter 4**
40. A school is planning field trip for 296 people. Buses can carry 40 people and vans can carry 12 people. The number of vans being used is 3 more than the number of buses. How many vans and buses are being used for the trip. Show your equations.

41. You have $5.10 in nickels and dimes. The number of dimes is 3 more than the number of nickels. How many of each coin do you have? Show your equations.

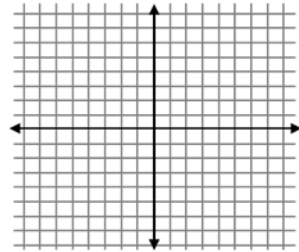**Graph and shade the solution to each system of inequalities:**

42. Find the solution to the inequality.
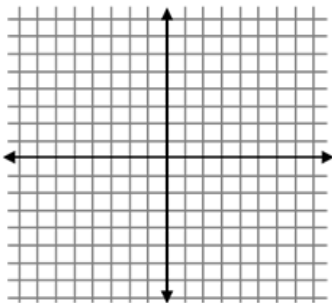
$y > \frac{-3}{2}x + 6$
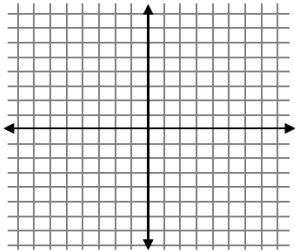
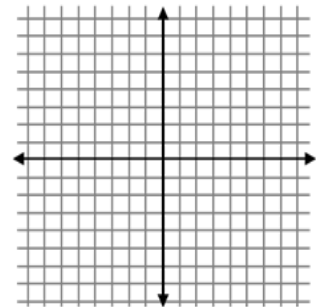43. Find the solution to the inequality.

$4x - 2y \geq 12$

44. $y < -3x + 2$

$y > 2x - 1$

45. $-2y \leq -4x + 2$

$y \leq -3x + 4$

44b. Determine if (2,4) is the solution to the system

45b. Determine if (0,2) is the solution to the system