Math 017 Final Exam Name_____

For Problems 1 – 12, perform the indicated operations.

1. $-5-7$

2. $-5+7$

3. $-5-(-7)$

4. $-5+(-7)$

5. $5-7$

6. $5-(-7)$

7. $-3+(-5)+8-(-9)+10$

8. $-5-6-7-8$

9. $(-2)(-3)(-1)$

10. $\dfrac{-8}{4}$

11. $\dfrac{-3+5}{-2}$

12. $\left(\dfrac{1}{2}\right)\left(\dfrac{-2}{3}\right)\left(\dfrac{-3}{4}\right)$

For problems 13 – 16, perform the indicated operations, combine like terms.

13. $\dfrac{x^5}{x^3}$

14. $x^2 + 2x - 7x + 3$

15. $(x-5)(x+2)$

16. $(x-3)(x+3)$

Evaluate the following numbers, write the answer without exponents.

17. 2^{-3}

18. $\dfrac{10^{-13}}{10^{-15}}$

19. 10^0

20. $3^5 \times 3^6 \times 3^{-9}$

21. $\dfrac{2^3}{3^{-2}}$

Solve for x:

22. $2x - 1 = 7$

23. $\frac{x}{4} = 10$

24. $-6x = 42$

25. $7x + 2 = x - 4$

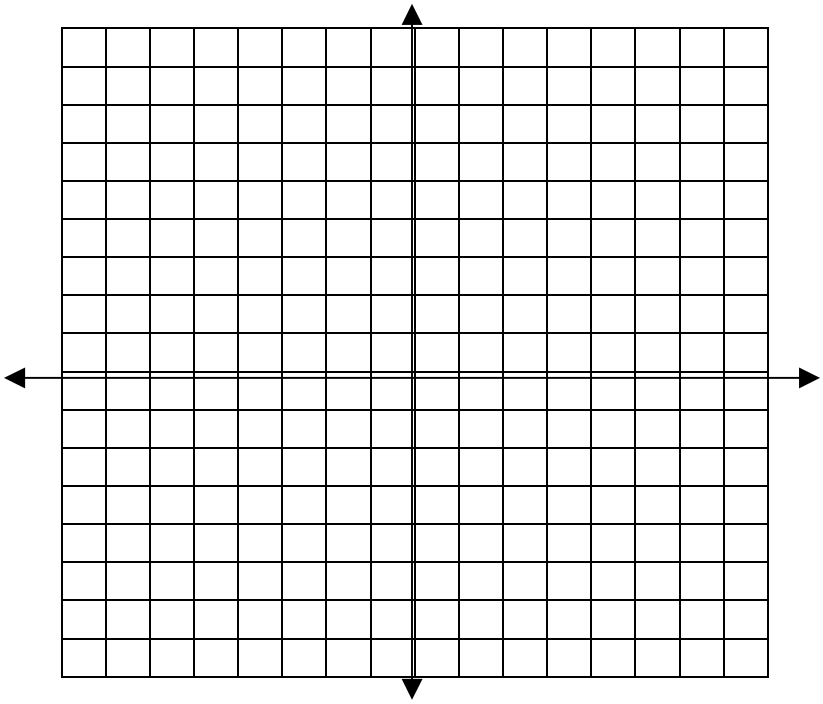
For problems 26 and 27, evaluate the expression if $a = 1, b = -2, c = -3$

26. $\frac{-b}{2a}$

27. $b^2 - 4ac$

28. Graph the line given by the equation $y = 2x - 1$ by finding 3 points that satisfy the equation, plotting the points and drawing the line connecting them.

$(-2, \_\_), (0, \_\_), (2, \_\_)$



29. On the same coordinate axis above, graph the line given by the equation $y = -x + 3$

30. Where do the lines $y = 2x - 1$ and $y = -x + 3$ intersect? Make sure to write your answer as an ordered pair:

$(\_\_\_, \_\_\_)$

31. If a line passes through the points $(0,5)$ and $(2,8)$ what is the rate?

r = _____

32. At what point does the line cross the y-axis?

b = ____

33. Write the equation for the line through $(0,5)$ and $(2,8)$ in the form $y = rx + b$

You go to a club that charges a $10 cover and $2.50 per drink.
34. What is your total cost of you buy 4 drinks?

35. What is your total cost if you go to the club but don't buy any drinks?

36. Write the amount you pay as a linear equation where y represents your total cost and x is the number of drinks you buy.

37. Suppose the club charges a $25 cover but drinks are free. What would the equation be for your total cost?

38. What does the line look like in that case?

For problems 39 through 42, solve for x:

39. $(x+1)^2 = 9$

40. $x^2 = 64$

41. $x^2 + 6x = 0$

42. $(x-3)(x+4) = 0$