<u>DUE THE FIRST DAY OF SCHOOL - August 10, 2020</u>

This summer packet is for all students enrolled in Algebra I Honors for the 2020-2021 school year. <u>The entire packet is due the **FIRST day** of school. Please print this packet, complete the work on the packet, and have ready to turn in the FIRST day of school. This packet will NOT be turned in electronically</u>. The problems in this packet are designed to help you review topics that are important to your success in Algebra I Honors. **The material included in this packet will be tested the <u>second</u> week of school and <u>no calculator</u> will be allowed.**

Follow the directions in the packet and complete all the problems, neatly showing all of your work next to each problem. You will not be given credit for this packet if no work is shown. You should be able to complete the packet WITHOUT the use of a calculator. This packet will count as part of your first quarter Algebra I Honors grade. Any packets not turned in the first day of school will not be eligible for full credit. Failure to turn in the packet by Wednesday, August 12th, will result in a zero.

If you have forgotten how to do any of the problems in the packet, use the internet to "google" the objectives for help.

We will be using graphing calculators throughout the course. If you do not own a graphing calculator **it is recommended that you purchase your own calculator**. We recommend purchasing the TI-84 Plus. **Do not purchase** a TI-89 because they are not allowed in class or on the ACT. Also, please **do not purchase** a Cascio calculator, it is a middle school calculator and I will not be able to assist you with this calculator.

I look forward to meeting you and working with you in the Fall.

Enjoy your summer!

Ms. Julie Bowen

Name (please print) _____

Directions:
- Show <u>all your work</u> for each problem <u>next to or below each problem.</u>
- Record <u>final answers</u> in the <u>blanks</u> provided.
- <u>DO NOT</u> use a calculator.

<u>NO WORK = NO CREDIT! MUST SHOW ALL WORK TO EARN FULL CREDIT!</u>

Objective #1: Simplify fractions.

1. $\dfrac{57}{63}$ _____

2. $\dfrac{32}{136}$ _____

3. $\dfrac{30}{45}$ _____

Objective #2: Perform the indicated operation with fractions. Reduce to lowest terms.

4. $\dfrac{1}{6}$ + $\dfrac{7}{9}$ _____

5. $\dfrac{9}{25}$ − $\dfrac{3}{10}$ _____

6. $\dfrac{7}{10} - \dfrac{3}{8}$ _____

7. $\dfrac{7}{12} + \dfrac{7}{8}$ _____

8. $\dfrac{2}{3} \cdot \dfrac{21}{24}$ _____

9. $\dfrac{5}{10} \div \dfrac{7}{11}$ _____

10. $-\dfrac{2}{3} \cdot \dfrac{5}{4}$ _____

11. $\dfrac{5}{12} \div \dfrac{1}{4}$ _____

Objective #3:   Adding and subtracting integers.

12.   -17 + 9   _____

13.   31 – (-8)   _____

14.   -24 – (-38)   _____

15.   -108 + -676   _____

16.   -78 – 65   _____

17.   73 + -18   _____

Objective #4:   Simplify using the Order of Operations.

18.   4 + 3 (12 – 9)   _____

19.   3 + 7^2 _____

20.   5^2 – 4^2 + 2   _____

21.   7 + 2^2(5 + 2)   _____

22. $(9 - 7)^3 - (4 + 3)$ ———

23. $7^2 - 2(4 \times 3 + 7)$ ———

Objective #5: Evaluate if w = -6, x = 4, y = 3, z = -8.

24. $wx + yz$ ———

25. $5(w + x) + 4(y + z)$ ———

26. $(xy)^2 - 2wz$ ———

Objective #6: Simplify using the distributive property.

27. $7(y - 9)$ ———

28. $3d(-nm + 7)$ ———

29. $-3(8g + 3a)$ ———

Objective #7: Simplify using Distributive Prop and combine like terms.

30. $3(-4x + 7y) - 3x(2 + 3y)$ _____

31. $5xy - 12xy + 12xy - 9(x + y)$ _____

32. $5(x^2 + 3y^2) - y(x^2 + 5y)$ _____

33. $-3(4x + -2y) - 2(x + 3y) - 2(2x + 6y)$ _____

Objective #8: Write an algebraic expression for each statement.

34. One-third times a number increased by six   _____

35. The quotient of a number and five decreased by two

_____

36. Seven times the sum of twice a number and sixteen

_____

Objective #9:   Solve each proportion.

37. $\dfrac{8}{h} = \dfrac{5}{2}$ _____

38. $\dfrac{20}{30} = \dfrac{10}{x}$ _____

39. $\dfrac{24}{12} = \dfrac{x}{6}$ _____

Objective #10:   Solve each linear equation.

40. $5x - 5 = -10$ _____

41. $16 + 4y = -32$ _____

42. $16 + \dfrac{r}{2} = -11$ _____

43. $4(c + 2) = -28$ _____

44. $\dfrac{3y}{4} = 12$ _____

45. $35 = -7(z + 3)$ _____

46. $30 = 5\left(\dfrac{r}{5} - 3\right)$ _____

47. $9w + 6 = 6w - 15$ _____

Objective #11: Write an equation for each word problem and solve it.

48. The sum of four times a number and 3 is –13. Find the number.
Equation_____
Solution_____

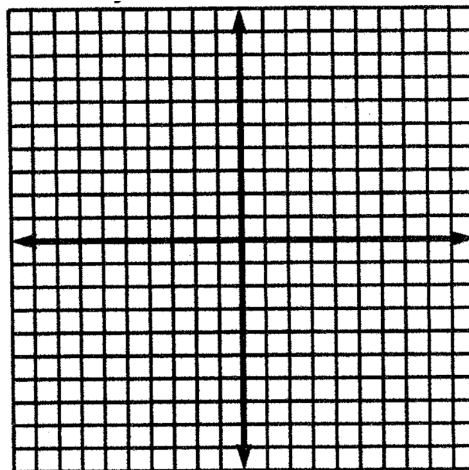49. The sum of 5 times a number and –11 is –16. Find the number.
Equation_____
Solution_____

Objective #12: Graphing linear equations. Solve each equation for y.
State the slope (m) and the y-intercept (b). Then graph.
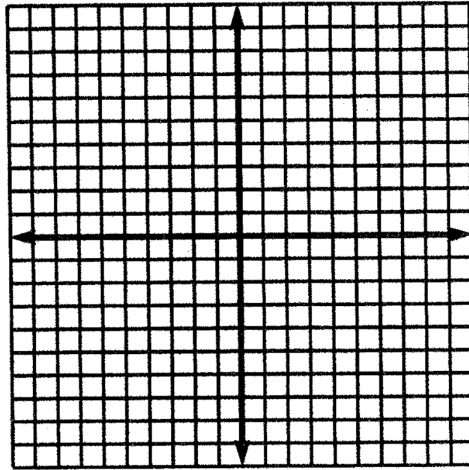
50. $2x + 3y = 9$ m = _____   b = _____

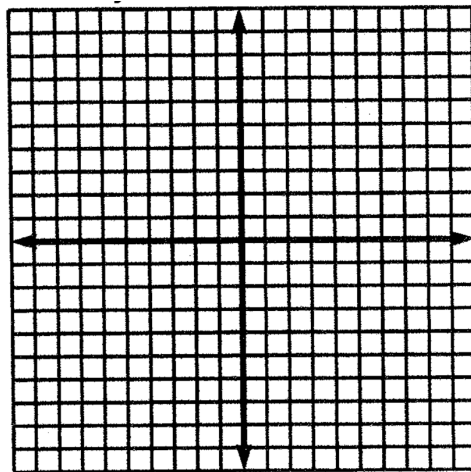51. $x - 3y + 6 = 0$ m = _____   b = _____

52. $5x - y = 7$ m = _____   b = _____

Objective #13: Find the Greatest Common Factor (GCF) of each set of monomials.

53. $25x^3, 50x^5, 40x^2$ _____

54. $12mn, 8m^2, 16mp$ _____

55. $8a^2b^4, 31ab^3$ _____

Objective #14: Complete each extended constructed response question.

56. The clerk at the bank desk says there is an initial charge of $50.00 to open a bank account at the Sunny Farms Bank. He then explains for every family member there is an additional cost of $15.50 each. The Smith family is thinking of opening an account for the family.

   a. Write an equation that represents the cost to open an account for a family.

   _____

   b. What is the greatest number of family members that could open a bank account without exceeding a fee of $150.00?

   _____

57. A cell phone company is offering 2 different monthly plans. Each plan charges a monthly fee plus an additional cost per minute.

Plan A: $40.00 fee plus $0.45 per minute
Plan B: $70.00 fee plus $0.35 per minute

a. Write an expression to represent the cost of Plan A.

_____

b. Write an expression to represent the cost of Plan B.

_____

c. Which plan would be least expensive for a total of 100 minutes?

_____

58. Taylor is participating in a new fitness program in which he is required to report his weight at the end of each week. The table below shows some of his results.

Number of Weeks in the Fitness Program	Weight (in pounds)
2	181
5	176
9	167
12	160
16	153
19	148

a. Graph the data from the table on the grid provided below. Label each axis.
    Use a straight edge to sketch the trend.

Weight
(In pounds)
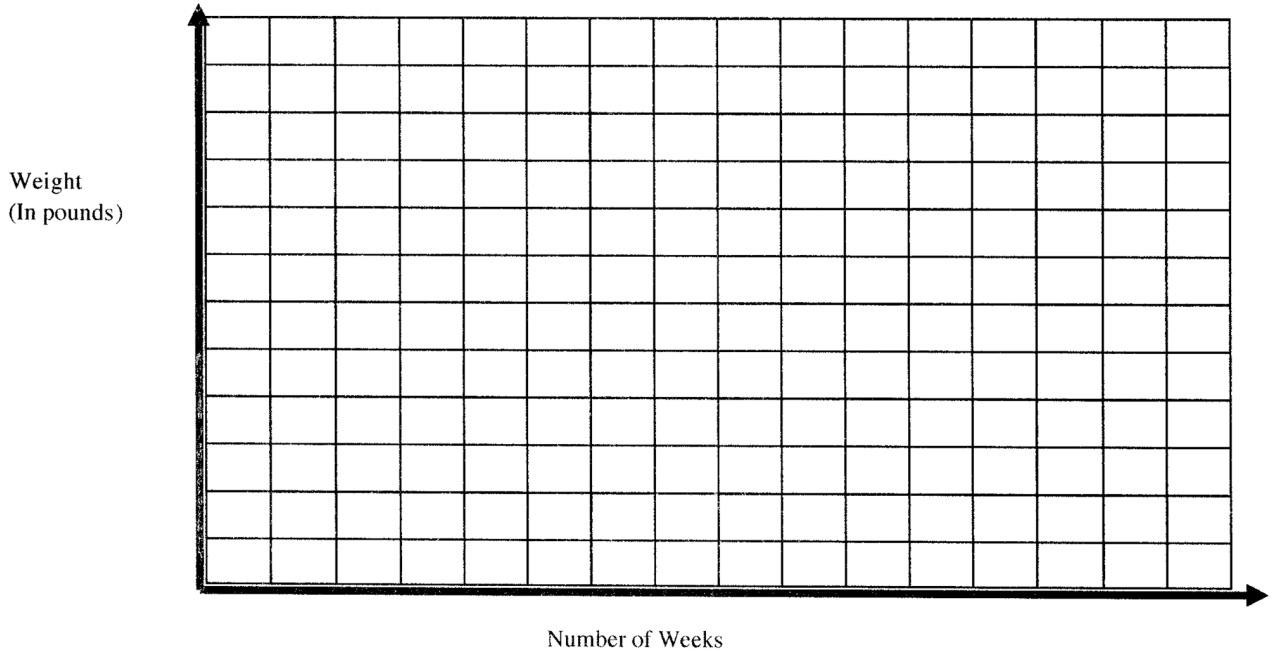
Number of Weeks

b. Explain the relationship between the number of weeks in the
    fitness program and the weight in pounds.

    _____

    _____

    _____

    _____

c. Using information from the graph and table, predict Taylor's
    starting weight and weight after 25 weeks in the fitness program.

    Starting weight: _____

    Weight after 25 weeks: _____