Name: _____

Summer Assignment for Students Entering
Algebra 1

Directions:

- **Complete this assignment WITHOUT the use of a calculator.**
- **All work must be shown to receive credit.**
- **Circle your answers**
- **Complete this assignment before the first day of class and be ready to hand it in, fully complete, on the first day of class.**

Note to the Student:

The purpose of this assignment is to review topics that are essential to your success. It will be assumed that all of the topics covered in this assignment, and in your previous math courses, have been mastered and will not need explanation as we use them in the Algebra 1 Part 1 course.

Please make sure that you complete this assignment no earlier than a month before school starts. You want to make sure to give yourself time to identify and relearn concepts you have difficulty with but you don't want to do it too early in the summer that you forget the material.

This assignment will have some weight in your first quarter grade, to be determined by the teacher of your class.

We hope you have a great summer and look forward to seeing you in the fall!

The Birch Math Department

Please read and sign the Honor Code statement below before starting the exam.
I pledge on my honor to uphold the values of the Birch Wathen Lenox School and always act with integrity, loyalty and civility. I will be honest in my academic work and in my relationships with peers and teachers. I will remain loyal to those things I know, and am taught are right and just. I will be kind, respectful, and charitable to all members of my school community, striving to be a role model for others.

Signature: _____

Summer Math Work
For Students Entering Algebra 1
MUST SHOW ALL WORK

Evaluate:

1. $127 - 2(3 + 4)^2$

2. $(2^2 \div 1) \cdot (9^3 + 5)$

3. Find the mean, median, mode, and range for the data below. Label each properly.

26, 22, 10, 12, 16, 28

Mean: _____   Medium: _____   Mode: _____   Range:_____

4. Rewrite the numbers from least to greatest.

1.10,   1.01,   0.11,   1.11

Find the sum or difference.

5. 219.67 – 3.098

6. 38.42 + 713.581

Find the product or quotient. (Round the quotient to the nearest hundredth if necessary)
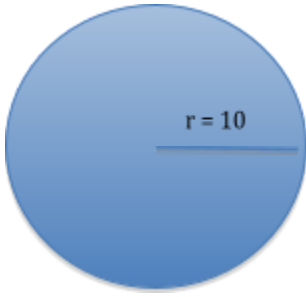
7. $6.214 \cdot 7.8$ 8. $8.57 \div 6.4$

9. Find the perimeter and area

6 feet

4   feet

Area: _____   Perimeter: _____

10. Find the area and circumference

r = 10

Area: _____   Circumference: _____

11.   Write the prime factorization of 120

12.   Find the greatest common factor (GCF) of 40 and 24

13.   Find the least common multiple (LCM) of 36 and 42

14.   Three seventh graders measured their heights using a meter stick. Their heights were 1.2 meters, 1.5 meters, and 1.55 meters. Write the heights as mixed numbers in **simplest form**.

15. Adding and subtracting fractions and mixed numbers. Use the LCD. **Show ALL work**. *Make sure your answers are in* **simplest form.**

1) $\dfrac{5}{4} - \dfrac{3}{4}$

2) $\dfrac{3}{2} - \dfrac{1}{2}$

3) $\dfrac{2}{5} + \dfrac{4}{5}$

4) $\dfrac{1}{3} - \dfrac{1}{3}$

5) $6 - \dfrac{1}{6}$

6) $\dfrac{1}{2} - \dfrac{1}{2}$

7) $\dfrac{1}{5} + \dfrac{1}{5}$

8) $\dfrac{7}{6} - \dfrac{5}{6}$

9) $\left(-\dfrac{4}{5}\right) - \dfrac{7}{8}$

10) $\dfrac{1}{3} - \left(-\dfrac{5}{3}\right)$

11) $\left(-\dfrac{1}{3}\right) + \dfrac{3}{8}$

12) $\left(-\dfrac{10}{7}\right) + \dfrac{1}{6}$

13) $\dfrac{9}{5} + \left(-\dfrac{4}{3}\right)$

14) $2 - \dfrac{13}{8}$

15) $\dfrac{9}{5} - \dfrac{5}{8}$

16) $\left(-\dfrac{4}{3}\right) - \left(-\dfrac{3}{2}\right)$

17) $(-1) + \left(-2\dfrac{2}{5}\right)$

18) $\left(-3\dfrac{3}{5}\right) - 4\dfrac{2}{5}$

19) $3\dfrac{6}{7} + \left(-1\dfrac{1}{7}\right)$

20) $1\dfrac{2}{7} + \left(-3\dfrac{4}{7}\right)$

21) $2\dfrac{1}{3} + \left(-1\dfrac{2}{3}\right)$

22) $\left(-1\dfrac{3}{4}\right) + \left(-3\dfrac{3}{4}\right)$

16.   Multiplying & Dividing Fractions, Whole Numbers & Mixed Numbers

1) $-\dfrac{5}{4} \cdot \dfrac{1}{3}$

2) $\dfrac{8}{7} \cdot \dfrac{7}{10}$

3) $\dfrac{4}{9} \cdot \dfrac{7}{4}$

4) $-\dfrac{2}{3} \cdot \dfrac{5}{4}$

5) $-2 \cdot \dfrac{3}{7}$

6) $-2\dfrac{2}{3} \cdot 4\dfrac{1}{10}$

7) $-2\dfrac{1}{5} \cdot -1\dfrac{3}{4}$

8) $-1\dfrac{1}{4} \cdot 9$

9) $-1\dfrac{5}{7} \cdot -2\dfrac{1}{2}$

10) $-2\dfrac{3}{8} \cdot 2\dfrac{1}{2}$

11) $\dfrac{-1}{5} \div \dfrac{7}{4}$

12) $\dfrac{-1}{2} \div \dfrac{5}{4}$

13) $\dfrac{-3}{2} \div \dfrac{-10}{7}$

14) $\dfrac{1}{2} \div \dfrac{8}{7}$

15) $\dfrac{-9}{5} \div 2$

16) $-3\dfrac{5}{9} \div 3$

17) $-2 \div -3\frac{4}{5}$

18) $\frac{1}{9} \div -1\frac{1}{3}$

19) $1\frac{6}{7} \div 5\frac{3}{4}$

20) $-3\frac{7}{10} \div 2\frac{1}{4}$

17. Evaluate: -4(6)(-3)

18. Evaluate: 15 – (-22)

19. Evaluate: $|2 - 3|$

20.   At the beginning of the week, you have $47 in your savings account. During the week, you deposit $19, withdraw $55, deposit $23. How much money is in your account at the end of the week?

21.   The record low temperature in Texas is -23°F. The record low temperature in Utah is three times lower than the record low in Texas. What is the record low temperature in Utah?
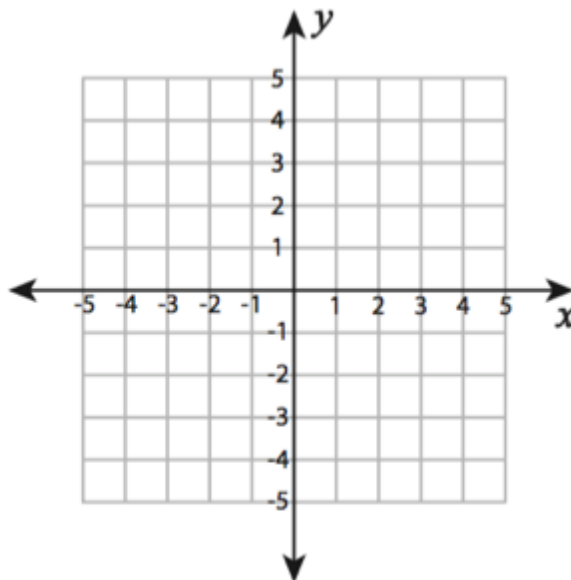
22.   **Plot each set of ordered pairs.**

A(-1, -4)
B (1, -4)
C (3, 5)
D (-2, 6)

23.   Solve the following one-step equations

1) $26 = 8 + v$

2) $3 + p = 8$

3) $15 + b = 23$

4) $-15 + n = -9$

5) $m + 4 = -12$

6) $x - 7 = 13$

7) $m - 9 = -13$

8) $p - 6 = -5$

24. Solve the following two-step equations

    a. $2x + 3 = 17$

    b. $-3x - 1 = 11$

c. $\frac{x}{3} + 2 = -1$

25. Solve the inequality and graph the solution on a number line.

$$2x < 14$$

26. Solve the inequality and graph the solution on a number line.

x + 6 ≥ -2

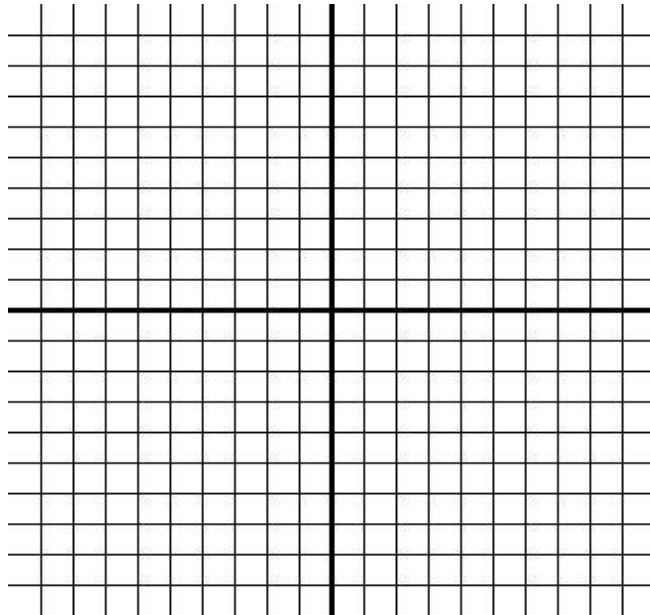27. Solve the inequality and graph the solution on a number line.

3x + 6 ≥ 0

28. Solve the inequality and graph the solution on a number line.

5x – 10 < -25

29. Graph the following equation by making a table of values (Make sure to label the graph.)

y = -*x* – 3

30. The table below shows the different number of colored shirts in Mr. Russell's class. Use the table to write the specified ratio.

Shirt Color	Quantity
Blue	5
Red	3
Yellow	2
Green	4
Pink	2

Blue to Yellow

Green to total number of shirts

Red and yellow to green and blue

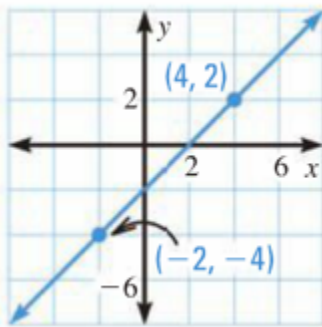31.   Find the unit rate:

66 yards in 10 seconds $390 in 40 hours
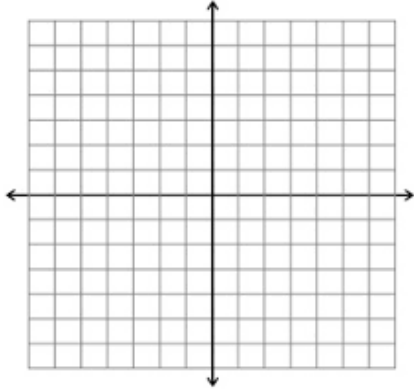
32.   Find the average speed.

A swimmer completed a 100-meter race in 1 minute and 20 seconds. What was the swimmer's average speed?

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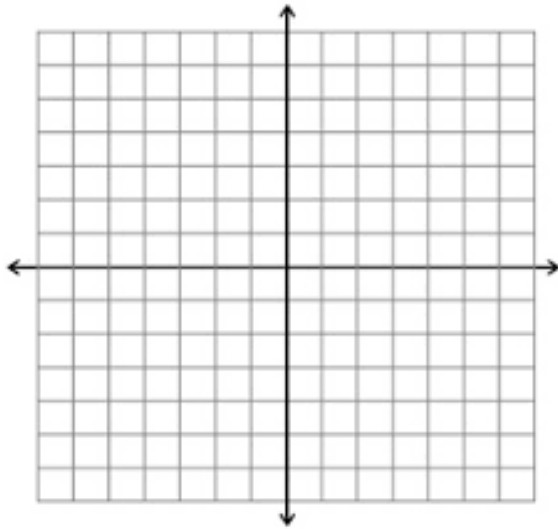33. Find the slope of the line in the graph below:

Draw the graph of the line that passes through the points. Then find the slope of the line. (Remember to label the graph)

34.   (-3, 1) , (-2, -2)

35.　　$(4, 0)$, $(4, 1)$

36.　Solve the proportion:

$$\frac{15}{21} = \frac{20}{y}$$

37. Solve the proportion:

$$\frac{4}{9} = \frac{10}{x}$$

38. Write the decimals as percents:

  a. 0.45   b. 0.8   c. 1.24   d. 0.834

39. Write the percents as fractions:

  a. $\overline{}$

  a. 92%.   b. 105%   c. 45%.   d. 3%

40.   Deserts cover about 1/5 of Earth's land surface. What percent of Earth's land surface is **not** desert?

41. What number is 40% of 150?

42. The number 117 is 45% of what number?

43. What percent of 150 is 90?

44.   A clothing salesperson sells a suit for $350. The salesperson receives an 8% commission on the sale. How much is the commission?

45.   Customary Units:

23ft = _____ inches   6 qts = _____ pints   28 qts = _____ gal