B. F. Butler Middle School
8th Grade Summer Math Packet

Dear Incoming 8th Graders,

Please complete this summer math packet prior to the beginning of the 2018-2019 school year. The purpose of the math packet is to keep all of the skills you learned in 7th grade fresh in your mind, so we can begin teaching 8th grade skills when you return. The packet will count as a ***quiz*** grade and you **must** show your work on every question to receive full credit. Please use pencil and write neatly. Don't wait until the end of summer to begin your packet!

If you need help answering any of these questions please feel free to watch videos on Khan Academy.

We are very excited to have you in our class next school year. Have a relaxing and exciting summer break!

Sincerely,

Mrs. Guerriero and Mrs. Pappalardo

Summer Math

name:

1. Solve.

-10 + 4

-5 + (-8)

17 + (-9)

-4 - (-3)

6 - (-15)

Explain the rule for adding a positive and a negative number

2. Use the distributive property to multiply the rational numbers below.

$$-4 \cdot \left(-2\frac{3}{8}\right)$$

3. Solve. $\frac{7}{8} + -\frac{1}{6}$

A. $-\frac{7}{48}$ B. $-5\frac{1}{4}$

C. $-5\frac{1}{8}$ D. $-5\frac{1}{2}$

4. Solve.

$26.04 \div -6.2$

5. Solve. $-\frac{3}{4} + \left(-\frac{3}{8}\right)$

6. Solve.

-4(-5)

6(-4)

12÷(-3)

-54÷(-9)

(-5)(-4)(-3)

Show all your work!!

7. The table below shows the relationship between the number of miles traveled, x, and the number of gallons of gas used, y.

x	35	70	105	140	175
y	1	2	3	4	5

Which of the following equations best represents the relationship?

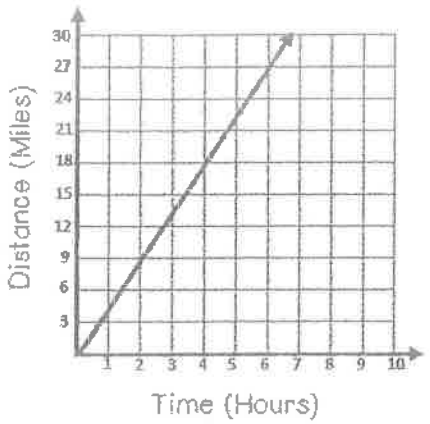
A. $y = 35x$

B. $y = \frac{1}{35}x$

C. $35 = 1x$

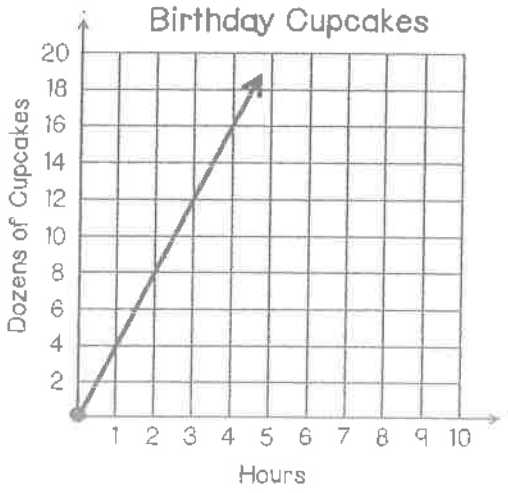
D. $y = 3.5x$

8. Find the unit rate demonstrated in the graph below.



A. 9 miles per hour
B. 4.5 miles per hour
C. 3 miles per hour
D. 1.5 miles per hour

Use the graph below to answer questions



Which ordered pair above can be used to determine the unit rate? _____

How many hours will it take to make 38 dozen cupcakes? _____

10. A recipe that serves four calls for $2\frac{1}{4}$ cups of butter. How many cups of butter are needed to serve ten?

11. Determine the constant of proportionality in the table below.

Months	2	4	6	8	10
Total Revenue	190	380	570	760	950

12. A recipe for lemonade punch calls for 6 cups of lemonade for every 24 cups of punch. Which equation can be used to find x, the percent of lemonade in the recipe?

A. $\frac{6}{24} = \frac{x}{100}$

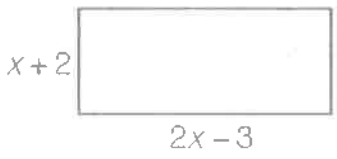
B. $\frac{24}{30} = \frac{x}{100}$

C. $\frac{24}{6} = \frac{x}{100}$

D. $\frac{6}{30} = \frac{x}{100}$

Solve the porportion you chose.

13. Write an expression to represent the perimeter of the figure below.



_____

14. Solve.

$$\frac{x}{8} + 6 = 32$$

x = _____

15. Solve.

$$-3x - 10 = 32$$

x = _____

16. Simplify.

$18m - 9v + 6v - 7m$

_____

17. Simplify.

$-6r - 5s + 6r + 7s$

_____

18. Solve.

$x - 9.5 = -10.5$

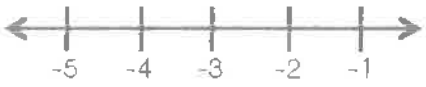
x = _____

19. **Solve.**

$x + 12 = 18$

20. Graph.

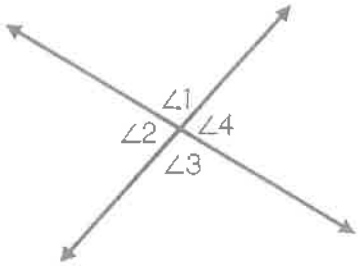
$c \leq -3$



21. Write an inequality to represent "a number is at most two".

_____

22. Which of the angles below are supplementary?



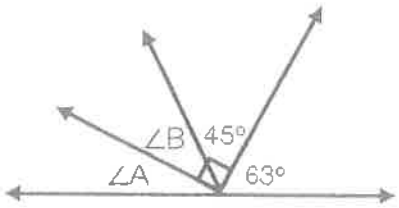
A. ∠ 1 and ∠ 3

B. ∠3 and ∠ 4

C. ∠ 4 and ∠ 2

D. ∠ 3 and ∠ 1

23. Determine which equation below can be solved to find the value of ∠ A.



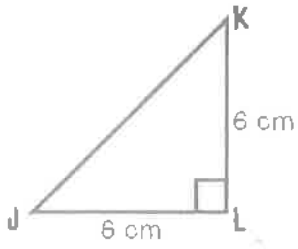
A. x + 45 + 63 = 180

B. x + 90 + 63 = 180

C. x + 45 + 63 = 90

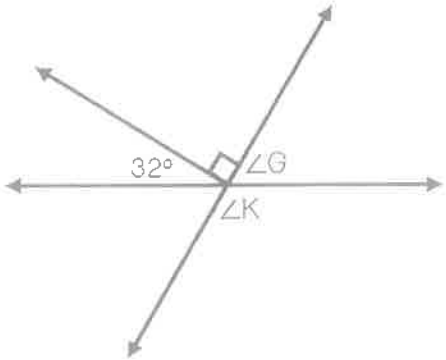
D. x + 90 + 63 = 360

24. What is the measure of ∠ J?



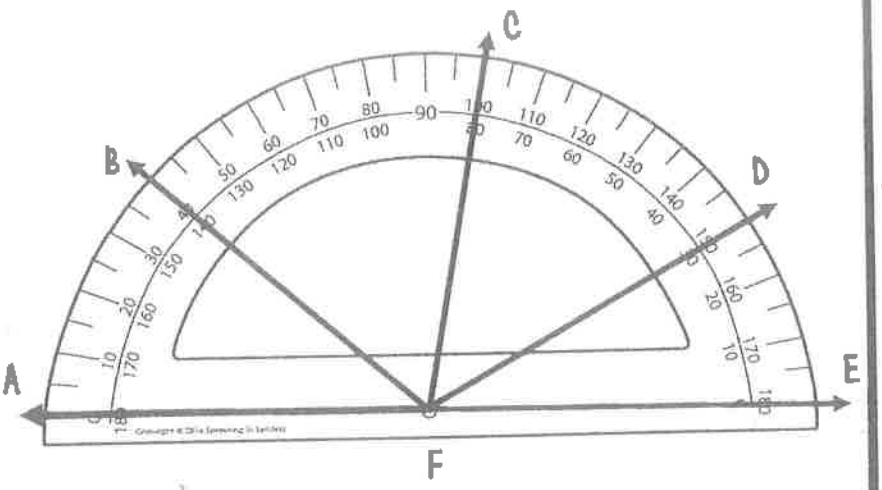
∠J: _____

25. What is the measure of ∠ G?



∠G: _____

Use the protractor to answer questions 7 and 8.



26. What is the measure of ∠BFC?

27. Which of the following is a set of complementary angles?

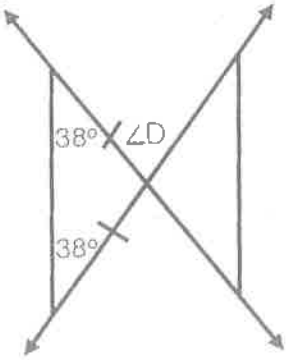
A. ∠CFD and ∠EFD

B. ∠AFB and ∠DFE

C. ∠AFC and ∠DFC

D. ∠BFC and ∠DFE

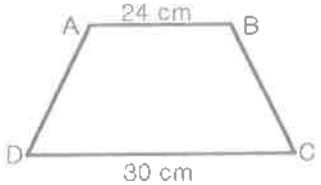
28. Find the value of ∠D.

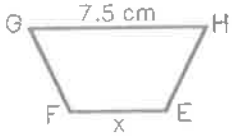


29. Troy made a scale drawing of the Statue of Liberty which has an actual height of 305 feet. He decides to use a scale in which 1 inch represents 25 feet. What is the height in inches of Troy's drawing?

30. Find the area of the circle below.

31. The two trapezoids below are similar. What is the length of EF?



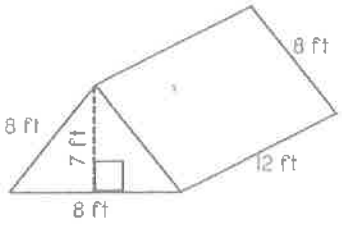


32. What is the height, x, of the rectangular prism, if the volume is 750 cm^3?

33. A hula hoop measures 14 inches from the center to the outside. What is the distance around the hula hoop?

A. 21.98 in^2
B. 175.84 in^2
C. 43.96 in^2
D. 87.92 in^2

34. A shipping box is shown below. How many cubic feet will the shipping box hold?



35. What is the volume of the cereal box?