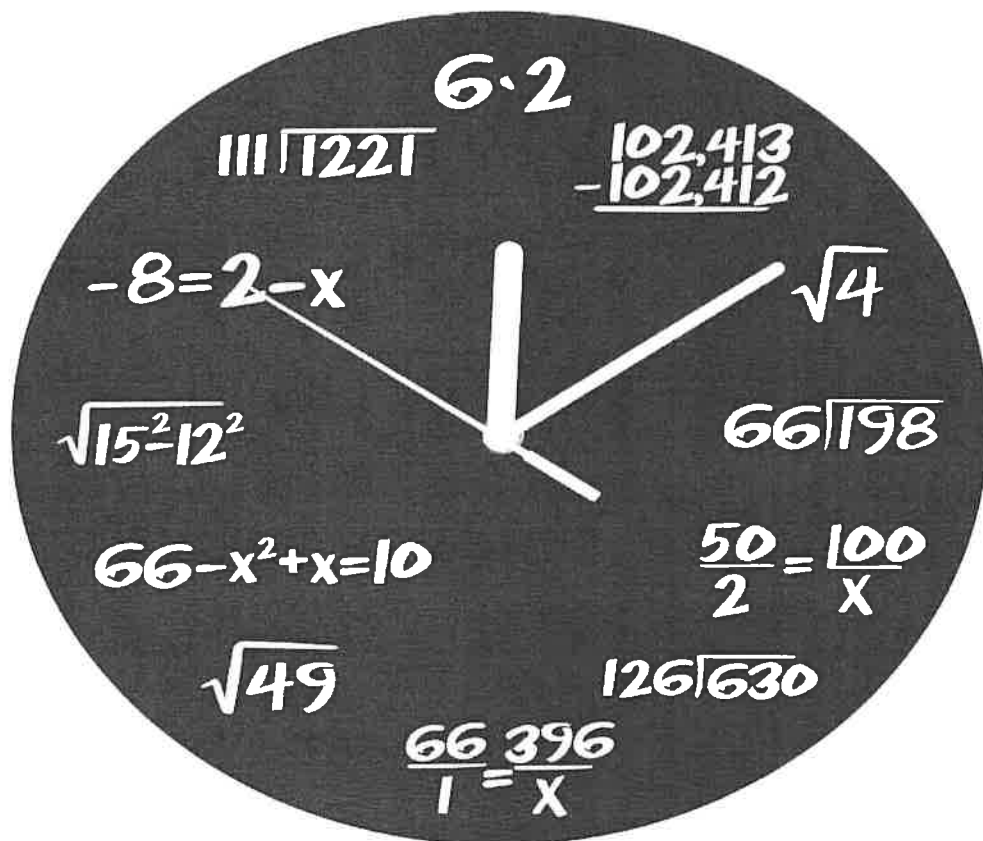


Belleville Middle School
Summer Math Packet
For Students Entering Grade 7

Don't forget to show your work! This will be counted as a test grade.



Name _____

RATIOS AND PROPORTIONAL REASONING

1. You drive a distance of 242 miles and use 11 gallons of gas. What is the average miles per gallon of your car?

ANSWER: _____

2. You get paid \$20 for 4 hours of work. What is your hourly rate?

ANSWER: _____

3. A volleyball team won 10 of its 16 games. What is the win-loss ratio?

ANSWER: _____

4. The adult - child ratio at a local daycare center is 3 to 16. At the same rate, how many adults are needed for 48 children?

ANSWER: _____

5. 17 out of 20 adults surveyed said they owned a cell phone. Represent the ratio 17 out of 20 as a percent.

ANSWER: _____

6. At a light bulb factory, 3 out of every 1,000 bulbs produced are defective. If 5,000 bulbs are produced, how many would you expect to be defective?

ANSWER: _____

TOTAL SCORE: _____ of 6

7. Decide whether the pair of ratios form a proportion

$$\frac{15}{12} \stackrel{?}{=} \frac{4.5}{3.6}$$

ANSWER: _____

8. Solve the proportion $\frac{y}{10} = \frac{3}{5}$

ANSWER: _____

9. Which is a better buy, 14oz for 98¢ or 8oz for 64¢?

ANSWER: _____

10. Complete the ratio table below and then write the three new equivalent ratios.

72	36	24	12
126			

ANSWER: _____

11. Write 9% as a ratio.

ANSWER: _____

12. A fruit bowl contains 3 apples, 2 bananas, and 5 pears. What is the ratio of pears to apples?

ANSWER: _____

TOTAL SCORE: _____ of 6

THE NUMBER SYSTEM

13. 4 students equally share $\frac{3}{4}$ of a pizza. How much of the pizza does each student get?

ANSWER:_____

14. What is the area of a rectangular parcel of land that is $\frac{7}{8}$ mile by $1\frac{1}{2}$ miles?

ANSWER:_____

15. There was $\frac{2}{3}$ of a pan of lasagna in the refrigerator. Bill and his friends ate half of what was left. Write a number sentence and draw a model to represent the problem. How much of the pan did they eat?

ANSWER:_____

16. Ms. Pike is bagging snacks for a class trip. She has 72 pretzels rods and 48 pieces of string cheese. What is the largest number of snack bags she can make so that the bags are all the same and there is nothing left over?

ANSWER:_____

17. The beacon on the cell phone tower blinks every 5 seconds and the beacon on the water tower blinks every 8 seconds. The lights blink together. How many seconds will pass before the two lights blink together again?

ANSWER:_____

TOTAL SCORE: _____ of 5

Find the sum, difference, product or quotient. Show all work.

18. $37.65 \cdot 4.238$

ANSWER: _____

19. $297.57 \div 6.5$

ANSWER: _____

20. $74,404 \div 356$

ANSWER: _____

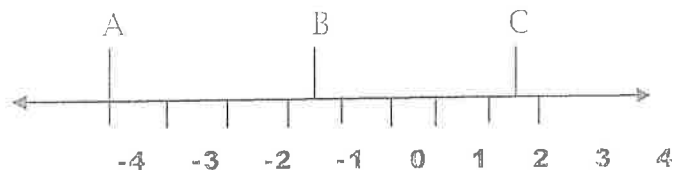
21. $417 + 37.95$

ANSWER: _____

22. 12.08×35.2

ANSWER: _____

23. Give the number for the location of points A, B and C on the number line.



ANSWER: A____ B____ C____

TOTAL SCORE: _____ of 6

Find the sum, difference, product or quotient. Show all work.

24. $2\frac{1}{2} - \frac{7}{8} =$

ANSWER: _____

25. $4\frac{3}{6} \times \frac{1}{9} =$

ANSWER: _____

26. $5 \div \frac{3}{10} =$

ANSWER: _____

27. $\frac{5}{6} \div 12 =$

ANSWER: _____

28. What is $\frac{2}{3}$ of 120?

ANSWER: _____

TOTAL SCORE: _____ of 5

EXPRESSIONS AND EQUATIONS

29. Simplify $3^3 \div 9 + 15 \times 4$

ANSWER: _____

30. Evaluate for $x = 7$ $4x + 17$

ANSWER: _____

31. Solve $x - 10 = 23$

ANSWER: _____

32. Simplify $48 - 2 \times 4^2 \div 8 + 13$

ANSWER: _____

33. Write an algebraic expression for "a number p increased by 7"

ANSWER: _____

34. Write an expression equal to $x + x + x + x$

ANSWER: _____

35. Use the distributive property to write an equivalent expression for $4(x - 2)$.

ANSWER: _____

36. Jack has \$25 to spend at the mall. Write an inequality that expresses symbolically the amount of money, m , that Jack can spend.

ANSWER: _____

TOTAL SCORE: _____ **of 8**

37. *Princess Maria's* carriage travels at 4 miles per hour. Write an equation to find out how many hours a 48 mile trip will take at that rate. Solve the equation.

ANSWER: _____

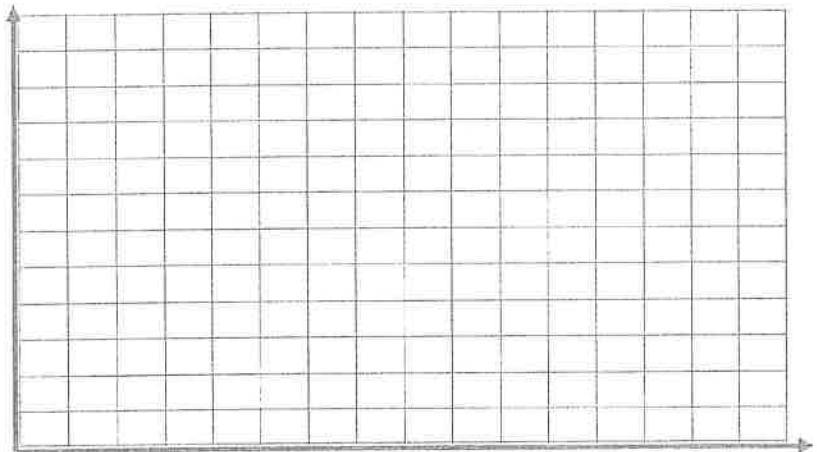
38. Find the width of a rectangle with a length of 18cm and an area of 72cm^2 .

ANSWER: _____

39. Laura has pledges of \$5 for each mile she walks in the Juvenile Diabetes Walkathon fundraiser.

- Use the table below to record the miles walked and the money earned for miles 0 through 6.
- Graph the data on the grid. Remember to select a scale and label the graph.
- Write a rule relating miles walked to money collected.

Miles Money



TOTAL SCORE: _____ of 3

GEOMETRY

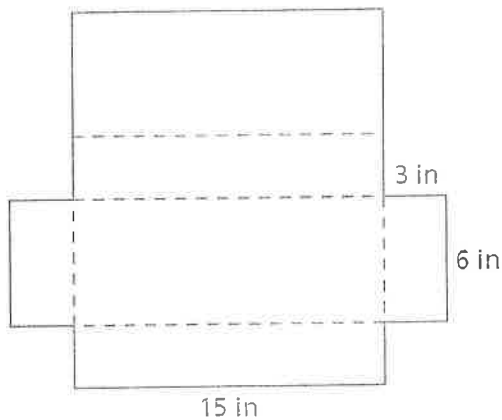
40. This net can be folded on the dashed lines to make a box.

a. What is the surface area of the box?

ANSWER (a): _____

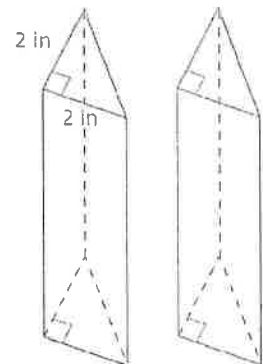
b. What is the volume of the box?

ANSWER (b): _____



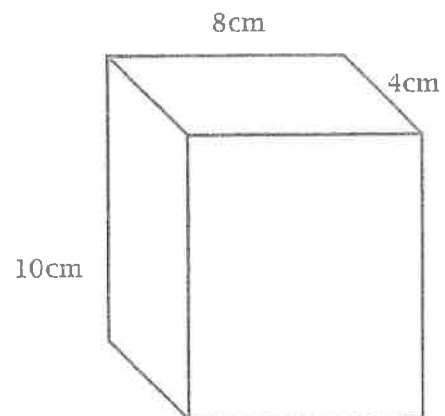
41 a. Nancy said the two triangular prisms below could form a square prism. Is Nancy correct? If yes, explain how. If no, explain why not.

b. Nancy also said the surface area of this square prism is the sum of the surface areas of the two triangular prisms. Is Nancy correct? If yes, explain how. If no, explain why not.



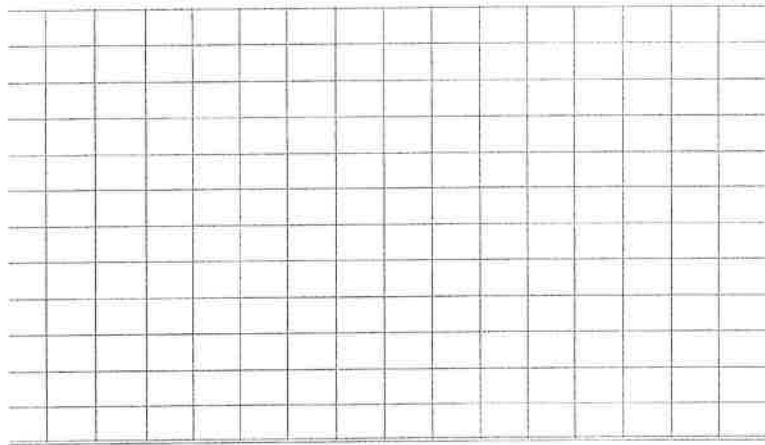
42. Name the figure at the right below. _____

- Find the volume of the figure.
- Sketch the net for the figure.
- Use the net to find the surface area of the figure.



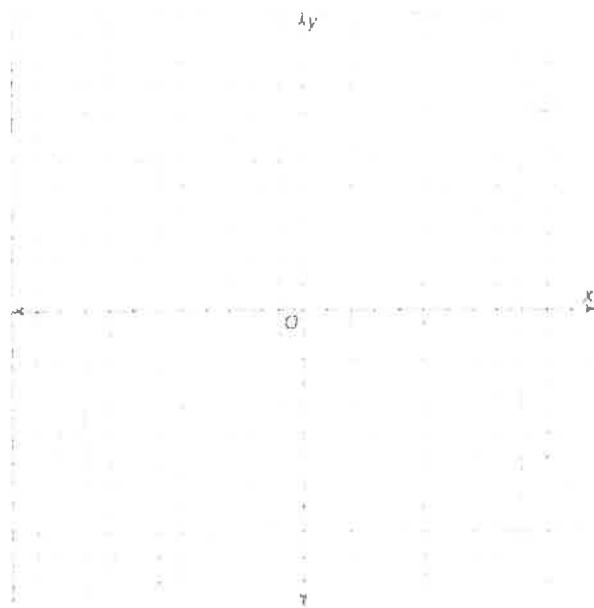
TOTAL SCORE: _____ of 3

43. The squares on this grid are 1 centimeter long and 1 centimeter wide. Outline two different figures with an area of 12 square centimeters and a perimeter of 16 centimeters.



44. Plot the following points on the grid below. $(-5,6)$ $(-5,-3)$ and $(2,6)$.

- Add a fourth point to create a rectangle. Give the coordinates of the new point.
- Find the area and perimeter of the rectangle



TOTAL SCORE: _____ of 2

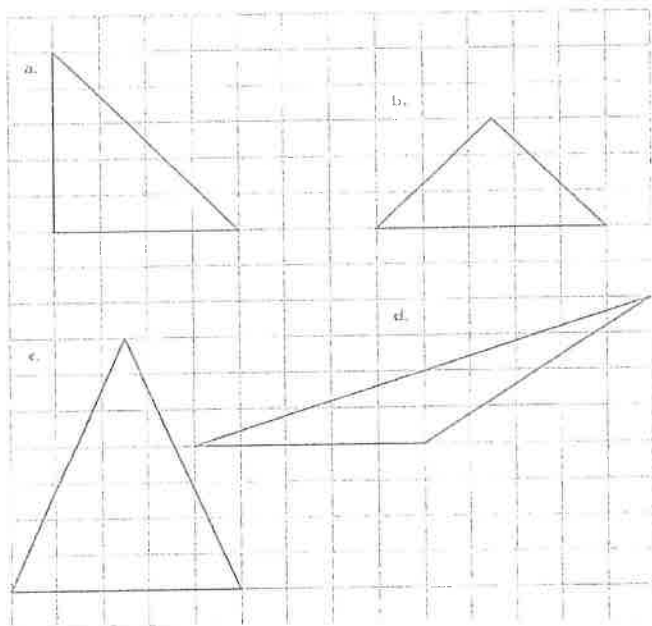
45. Find the area of each triangle below. Classify the triangle by its angles.

A. _____

B. _____

C. _____

D. _____

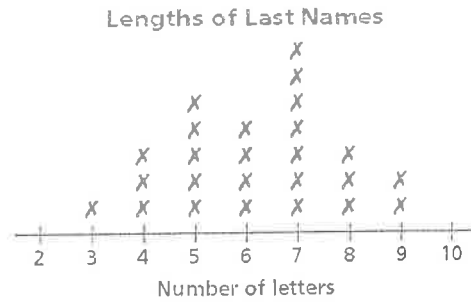


TOTAL SCORE: _____ of 1

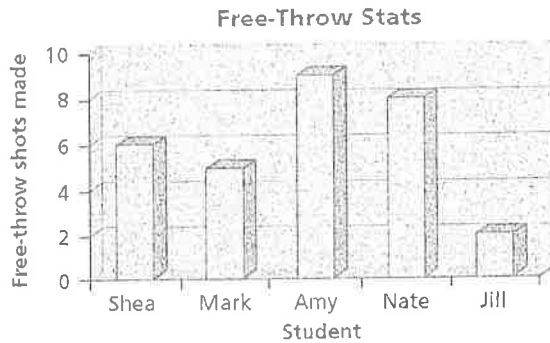
STATISTICS AND PROBABILITY

46. For the distribution pictured below, tell how many people are represented by the data, and identify the mode, median, and range.

Number of people represented _____ mode _____ median _____ range _____



47. Five students competed in a free throw contest. The number of free-throws out of 10 each student made is charted below. Based on the chart below, which of the following statements is false?



- a. Amy made more free throws than Shea or Jill
- b. Mark made more free throws than Jill
- c. Nate made the most free throws
- d. Shea made less free throws than Nate and Amy

TOTAL SCORE: _____ of 2

48. Mike was in charge of collecting contributions for the Food Bank. He received contributions of \$13, \$34, \$26, \$31 and \$28 from five co-workers. Find the median value of these contributions.

ANSWER: _____

49. Thirteen bowlers were asked what their score was on their last game. The scores are shown below.

190, 154, 150, 194, 182, 170, 190, 151, 190, 170, 178, 161, 180

Find the range of the bowlers' scores.

ANSWER: _____

50. The following data shows the high temperatures for a week in May in Michigan. Write the 5-number summary (minimum, first quartile, median, third quartile, and maximum) and then represent the data with a **boxplot**.

Day	Temp
Sun	66° F
Mon	67° F
Tue	71° F
Wed	68° F
Thurs	62° F
Fri	59° F
Sat	62° F

Minimum =

1st Quartile =

Median =

3rd Quartile =

Maximum =

TOTAL SCORE: _____ of 3