Monroe Township School District

Monroe Township, New Jersey

2026 Middle School 7th Grade Math
PREPARATION PACKET

Welcome to 7th Grade Mathematics! Our 7th Grade Mathematics Course is a comprehensive survey course that will provide you with the fundamental tools of mathematical understanding that will support you in all your high school courses. Since you will be taking *7th Grade Mathematics* after successful completion of 6th Grade Mathematics, the ***Monroe Township Middle School 7th GRADE PREPARATION PACKET*** contains review material of the 6th grade concepts, skills, and procedures that should be mastered **BEFORE** entering 7th grade in the fall. Essentially, this packet provides a review of the major 6th grade topics as well as a preview of 7th grade topics. The sections are based on the NJ 2016 Student Learning Standards.

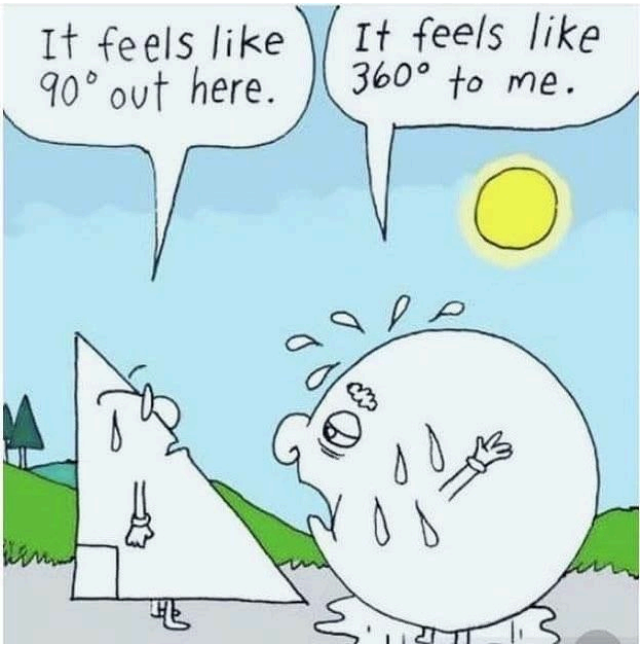
Here are some websites you might find particularly useful:

- http://www.khanacademy.org/
- http://www.studyisland.com/web/index/
- http://www.ixl.com/math/

This collection of problems will identify those concepts that you have mastered as well as those you will need to practice and review. You are expected to seek extra help immediately on those concepts with which you have not demonstrated proficiency. Be resourceful – use the online resources!

SOLVE WITHOUT THE USE OF A CALCULATOR AND SHOW ALL WORK

You will be responsible for handing in the completed packet with all work shown ON THE FIRST DAY OF SCHOOL. The following problems are representative of the types of items you will need to have mastered BEFORE 7th Grade Math… so we strongly encourage that you include this packet in your summer festivities! Good luck and enjoy! ☺



RATIOS AND PROPORTIONAL REASONING:

1. You get paid $30 for 5 hours of work. What is your hourly rate?

ANSWER:_____

2. A basketball team won 12 of its 18 games. What is the win-loss ratio?

ANSWER:_____

3. The boy - girl ratio at a school dance is 1 to 3. At the same rate, how many boys are there if there are 36 girls?

ANSWER:_____

4. Decide whether the pair of ratios form a proportion: $\frac{15}{12} \stackrel{?}{=} \frac{4.5}{3.6}$

ANSWER:_____

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

ANSWER:_____

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

ANSWER:_____

7. Complete the ratio table below:

72	**36**	**24**	**12**
126			

ANSWER:_____

THE NUMBER SYSTEM:

8. 6 students equally share $\frac{3}{4}$ of a pizza. How much of the pizza does each student get?

ANSWER:_____

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

ANSWER:_____

10. Ms. Brown wants to make snack bags for a class trip to the beach. She has 72 pretzel rods and 48 cookies. 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:_____

11. The beacon on the cell phone tower blinks every 5 seconds and the beacon on the water tower blinks every 9 seconds. The lights blink together. How many seconds will pass before the two lights blink together again?

ANSWER:_____

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

12. **42.889 – 6.245** ANSWER:_____

13. **110.4 ÷ 4.8** ANSWER:_____

14. **82,080 ÷ 342** ANSWER:_____

15. **516 + 27.38** ANSWER:_____

16. **12.08 × 35.2** ANSWER:_____

17. Complete the table below:

Fraction	**Decimal**	**Percent**
$\frac{1}{8}$		
	0. 12	
		16%

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

18. $2\frac{1}{2}-\frac{7}{8}$ =

ANSWER:_____

19. $4\frac{3}{6}\times\frac{1}{9}=$

ANSWER:_____

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

ANSWER:_____

EXPRESSIONS AND EQUATIONS:

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

ANSWER:_____

22. Evaluate when $x = 7$ $4x + 17$

ANSWER:_____

23. Solve $x - 8 = 33$

ANSWER:_____

x24. Simplify $48 - 2 \times 8^2 \div 4 + 3$

ANSWER:_____

25. Write an algebraic expression for " the sum of a number *p* and 7"

ANSWER:_____

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

ANSWER:_____

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

ANSWER:_____

28. Solve the following equations:

a) $3x = 15$ ANSWER:_____

b) $\frac{3}{4}x = 10$ ANSWER:_____

c) 6 + x = 15 ANSWER:_____

29. A movie theater charges the same price for every student ticket. Maya bought 4 tickets and spent $28 total. Write and solve an equation to find the cost of one ticket.

ANSWER:_____

30. Jason bought a coffee table for his living room but had a $25 off coupon. The price he paid after the coupon was $135. Write and solve an equation to find the original price of the table.

ANSWER:_____

31. Josh has $36 to spend at Six Flags. Write an inequality that expresses symbolically the amount of money, *m,* that Josh can spend.

ANSWER:_____

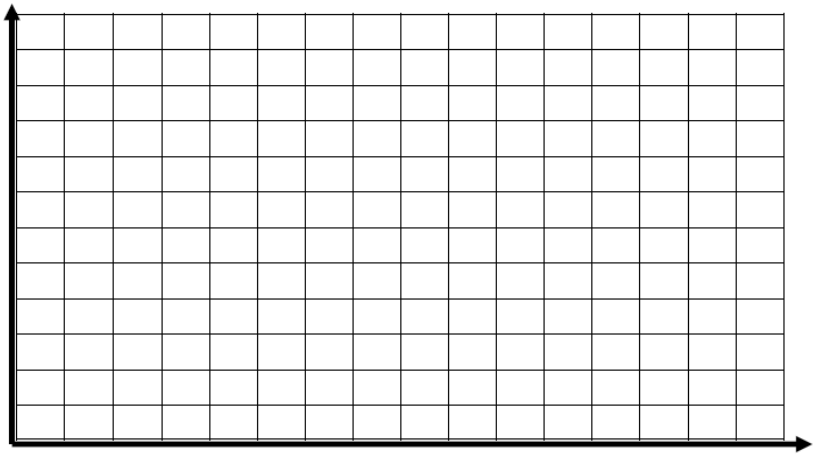
32. Find the width of a rectangle with a length of 12cm and an area of $72cm^{2}$.

ANSWER:_____

33. Ryan has collected pledges for his walk in a walkathon. He has pledges of $2 for each mile he walks. Use the table below to record the miles walked and the money earned for miles **0 through 6.**

- Use the data to make a line graph on the grid. Remember to select a scale and label the axes.
- Write a rule relating miles walked to money collected.

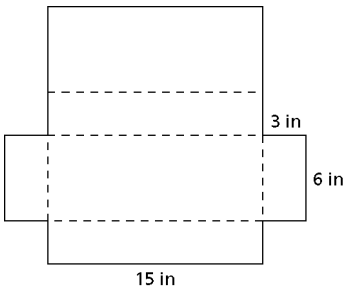
Miles	Money



Rule: _____

GEOMETRY:

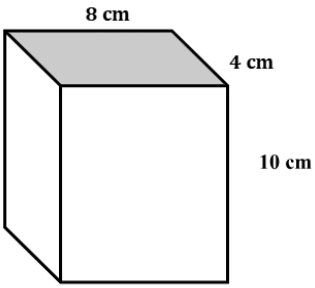
34. This net can be folded on the dashed lines to make a box. What is the surface area of the box?



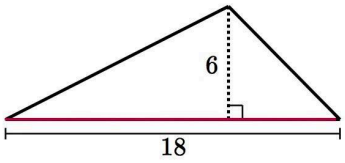
ANSWER:_____

35. Name the 3D figure below: _____

What is the volume of the figure? ANSWER:_____



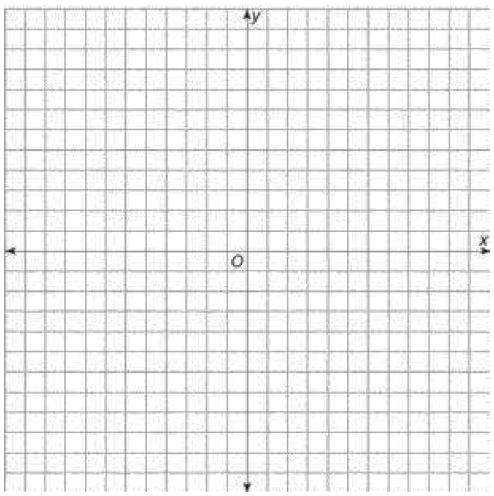
36. Find the area of the triangle below.



ANSWER:_____

37. 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 <u>area</u> and <u>perimeter</u> of the rectangle.



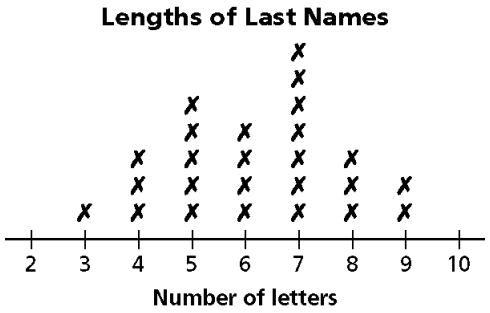
AREA ANSWER:_____

PERIMETER ANSWER:_____

STATISTICS AND PROBABILITY:

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

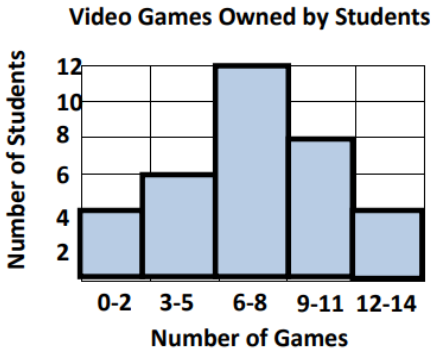
Number of people represented: _____ Mode: _____ Median: _____ Range: _____



39. Mike was in charge of collecting contributions for the Food Bank. He received contributions of $12, $39, $24, $37 and $28 from five co-workers. Find the median value of these contributions.

ANSWER:_____

40. Use the histogram below to answer the following questions:



a. How many students own 12-14 video games?

b. **Most** students own approximately how many video games?

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

180, 169, 166, 192, 182, 170, 180, 155, 194, 160, 178, 150, 180

Find the range of the bowlers' scores. ANSWER:_____

42. 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=