Monroe Township School District

Monroe Township, New Jersey

2026 Middle School 7th Grade Math *PREPARATION PACKET* *RESOURCE CLASS*

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. Be resourceful – use the online resources!

SOLVE 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 review 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? **(HINT: reduce ratio to lowest terms)**

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? **(HINT: Set up as a proportion)**

ANSWER:_____

4. Decide whether the pair of ratios form a proportion: **(HINT: Cross Multiply)**

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

ANSWER:_____

5. Solve the following proportion: **(HINT: Cross Multiply and divide)**

$$\frac{y}{10} = \frac{3}{5}$$

ANSWER:_____

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

(HINT: Remember to find unit rate. Find the cheaper cost for 1oz.)

ANSWER:_____

7. Complete the ratio table below and: **(HINT: remember what you do to the denominator you do to the numerator)**

4	**12**	**36**	**108**	
5	**15**			

ANSWERS:_____

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 $\frac{1}{2}$ miles? **(HINT: Area = L x W)**

ANSWER:_____

10. Ms. Brown wants to make snack bags for a class trip to the beach. She has 30 pretzel rods and 35 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? **(HINT: Find GCF)**

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? **HINT: Find LCM)**

ANSWER:_____

Find the sum, difference, product or quotient for #12-16. Show all work.

12. **42.889 – 6.245**

ANSWER:_____

13. **1.56 ÷ 1.2**

ANSWER:_____

14. **864 ÷ 24**

ANSWER:_____

15. **516 + 27.38**

ANSWER:_____

16. **12.08 × 35.2**

ANSWER:_____

17. Complete the table below:

Fraction Decimal: divide top by bottom
Decimal Fraction: put over place value & simplify
Decimal Percent: move the decimal 2 times right
Percent Decimal: move the decimal 2 times left

Fraction	**Decimal**	**Percent**
$\frac{1}{4}$		
	0.50	
		75%

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

18. $2\frac{1}{2}\ x\ \frac{7}{8} =$ **(HINT: Change to improper fraction first)**

ANSWER:_____

19. $\frac{5}{8} + \frac{7}{8} =$ **(HINT: Reduce to simplest form)**

ANSWER:_____

20. $\frac{5}{6} \div 12 =$ **(HINT: Keep, Switch, Flip)**

ANSWER:_____

EXPRESSIONS AND EQUATIONS:

21. Simplify $3^3 \div 9 + 15 \times 4$ **(HINT: PEMDAS)**

ANSWER:_____

22. Evaluate when x = 7

4x +10

ANSWER:_____

23. Solve $x - 8 = 33$

ANSWER:_____

24. Simplify $5 - 2 \times 2^3 \div 4 + 3$ (**HINT: PEMDAS)**

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) 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 60cm^2. ***Solve for w.***

$A = L \times W$

$60 = 12 \cdot w$

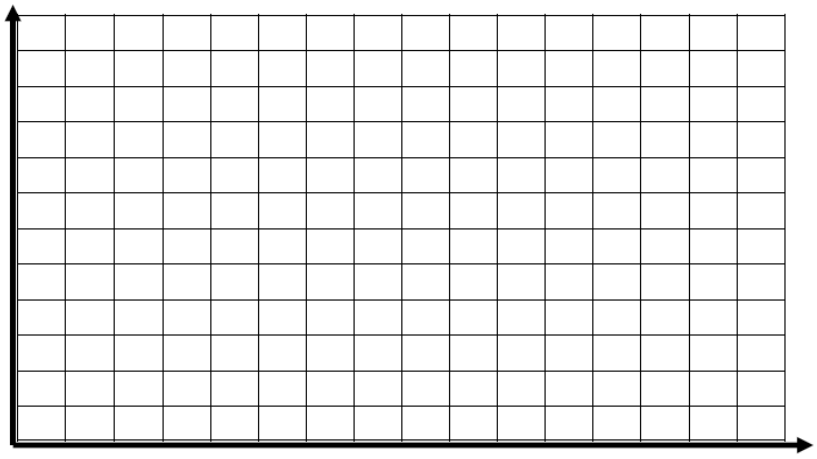
ANSWER:_____

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 **<u>0 through 6.</u>**

- 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
0	0
1	$2
2	$4
3	
4	
5	
6	

MONEY



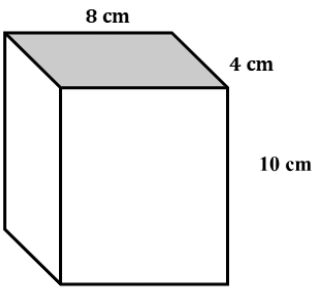
MILES

Rule: _____

GEOMETRY:

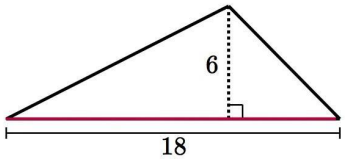
34. Name the 3D figure below: _____

What is the volume of the figure? **(HINT: V= L x W x H)**



ANSWER:_____

35. Find the area of the triangle below. **(HINT: Area = $\frac{b \times h}{2}$)**

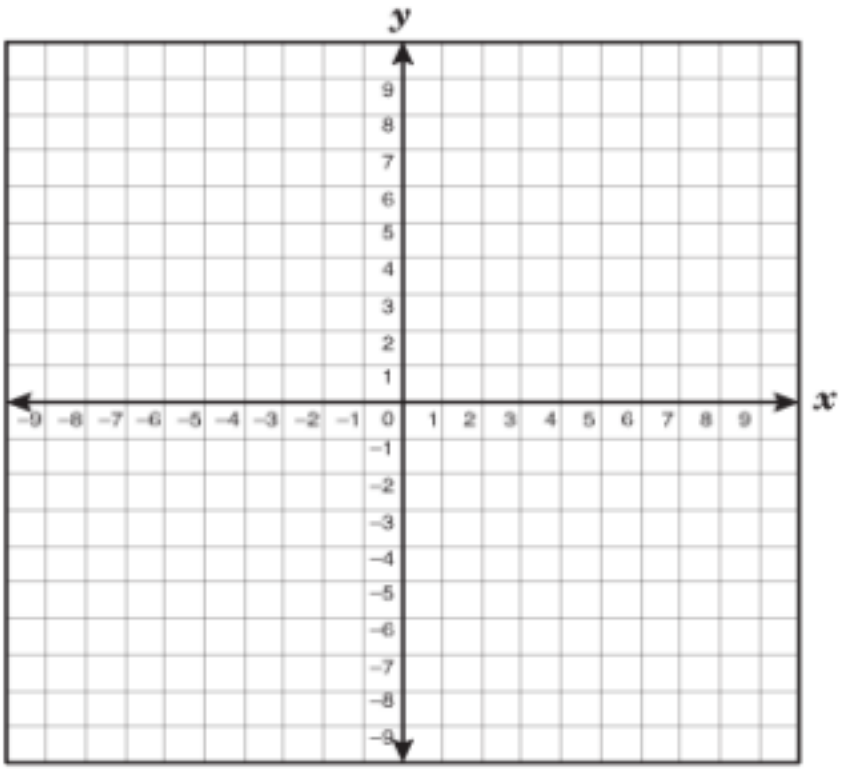


ANSWER:_____

36. 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.
- **Give the coordinates** of the new point. New point: _ (_____, _____)
- Find the perimeter of the rectangle created *(HINT: ADD all sides together)*: _____

- Find the area of the rectangle created *(HINT: A= L x W)*: _____

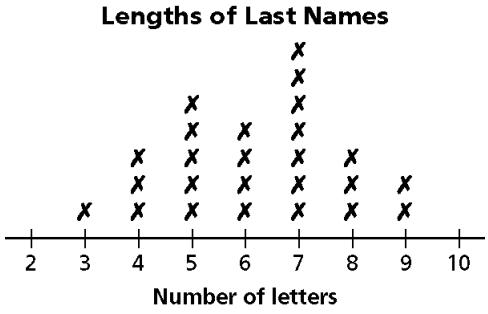


STATISTICS AND PROBABILITY:

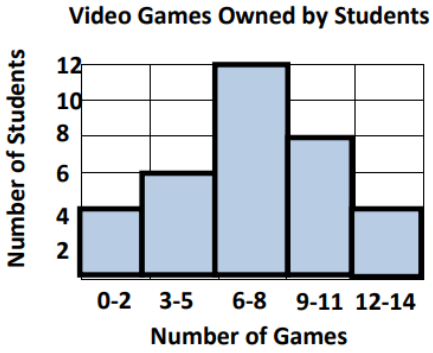
37. For the distribution pictured below, tell how many people are represented by the data, and identify the mode, median, and range.

Number of people represented: _____

Mode (MOST): _____ Median (MIDDLE): _____ Range (Greatest –Least): _____



38. 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?