

MONROE TOWNSHIP SCHOOL DISTRICT

MONROE TOWNSHIP, NEW JERSEY

2026 Middle School 6th Grade Accelerated Math *PREPARATION PACKET*

Welcome to 6th Grade Accelerated Mathematics! This course will provide you with the fundamental tools of mathematical understanding that will support you in your high school courses and beyond! Since you will be covering *7th and 8th grade math concepts this year*, this packet contains review material of the 6th grade concepts, skills, and procedures that should be mastered **BEFORE** entering math class in the fall. Essentially, this packet provides a review of the major 6th grade topics as well as a preview of the 7th and 8th grade topics you will see this year. 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.ixl.com/math/> (free version)
- Study Island (use Clever)
- enVisions (use Clever)

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 problems here are very representative of the types of items you will need to have mastered BEFORE 6th Grade Accelerated Math... so we strongly encourage you to include this packet in your summer festivities! Good luck and enjoy! ☺



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RATIOS AND PROPORTIONAL REASONING

1. Your jet ski travels a distance of 312 miles and uses 8 gallons of gas. What is the average miles per gallon of your jet ski?

ANSWER: _____

2. You get paid \$28 for 4 hours of work. What is your hourly rate?

ANSWER: _____

3. A volleyball team won 12 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 64 children?

ANSWER: _____

5. 14 out of 20 adults own a cell phone. Represent this ratio as a percent.

ANSWER: _____

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

ANSWER: _____

TOTAL SCORE: _____ of 6

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7. Fill in the missing fraction/decimal/percent conversions below.

FRACTION	DECIMAL	PERCENT
	0.12	
$\frac{7}{8}$		
		125%

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: _____

TOTAL SCORE: _____ of 4

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THE NUMBER SYSTEM

11. 4 students equally share $\frac{3}{4}$ of a pizza. How much pizza does each student get?

ANSWER: _____

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

ANSWER: _____

13. 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: _____

14. Ms. Balestrieri is bagging snacks for a field trip. She has 72 pretzel rods and 48 pieces of goldfish. 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: _____

15. A smartwatch gives a movement reminder every 5 seconds during a test mode, while a fitness tracker vibrates every 8 seconds. Both vibrate at the same moment. When will they vibrate together again?

ANSWER: _____

TOTAL SCORE: _____ of 5

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

16. $36.75 - 4.248$

ANSWER: _____

17. $297.57 \div 6.5$

ANSWER: _____

18. $74,404 \div 3178$

ANSWER: _____

19. $417 + 36.95$

ANSWER: _____

20. 12.06×35.2

ANSWER: _____

21. 472×5.5

ANSWER: _____

TOTAL SCORE: _____ of 6

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

22. $2\frac{1}{2} - \frac{7}{8} =$

ANSWER: _____

23. $4\frac{3}{6} \times \frac{1}{9} =$

ANSWER: _____

24. $5 \div \frac{3}{10} =$

ANSWER: _____

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

ANSWER: _____

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

ANSWER: _____

TOTAL SCORE: _____ of 5

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EXPRESSIONS AND EQUATIONS

27. Simplify $3^2 \div 9 + 15 \times 4$

ANSWER: _____

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

ANSWER: _____

29. Solve $x - 20 = 23$

ANSWER: _____

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

ANSWER: _____

31. Write an algebraic expression for "a number p increased by 4"

ANSWER: _____

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

ANSWER: _____

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

ANSWER: _____

TOTAL SCORE: _____ of 7



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34. Solve the equation. $5x = 15$

ANSWER: _____

35. Jack has \$20 to spend at the arcade. Write an inequality that expresses symbolically the amount of money, m , that Jack can spend.

ANSWER: _____

36. State a value for m that would satisfy the inequality from #35. Then, state a value that would NOT satisfy the inequality.

ANSWER: _____

37. 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: _____

38. Write and solve an equation to find the width of a rectangle with a length of 12 cm and an area of 72 square centimeters.

ANSWER: _____

TOTAL SCORE: _____ of 5

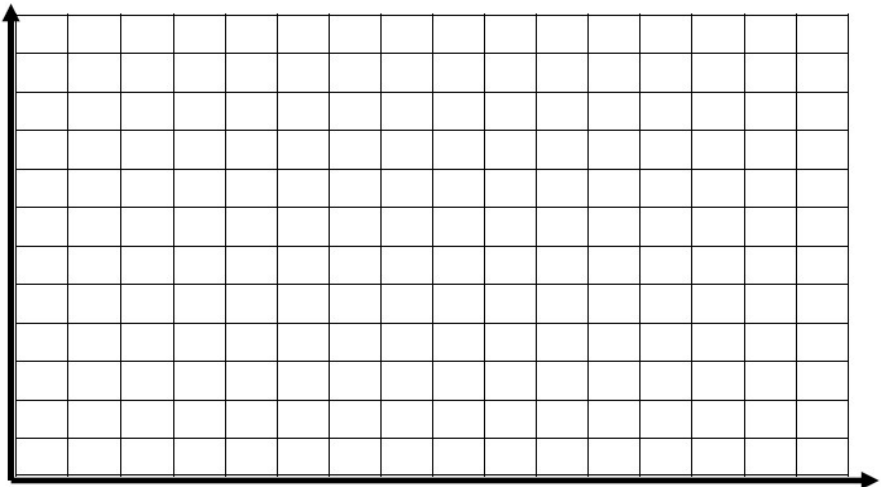
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39. Laura has pledges of \$5 for each mile she walks in the Juvenile Arthritis Walkathon fundraiser.

- Use the table below to record the miles walked and the money earned for miles 0 through 5.
- 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	\$



40. The perimeter of an equilateral triangle is 144 centimeters. The length of one side is $4x$ centimeters. Write and solve an equation to find x . Then, use the x value to find the length of each side.

41. 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.

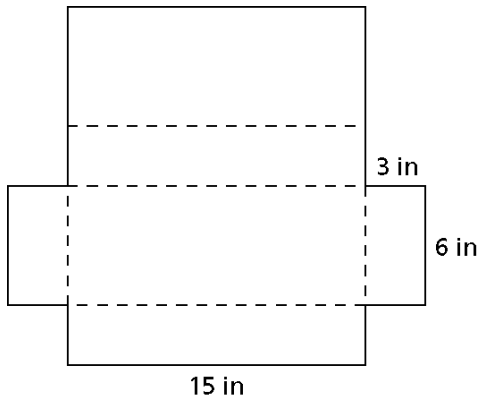
TOTAL SCORE: _____ of 3

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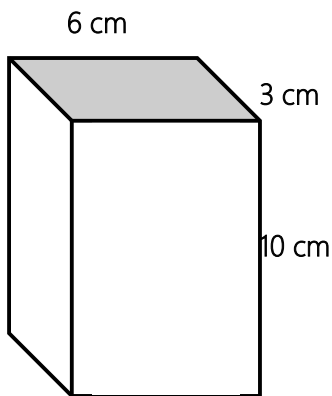
GEOMETRY

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



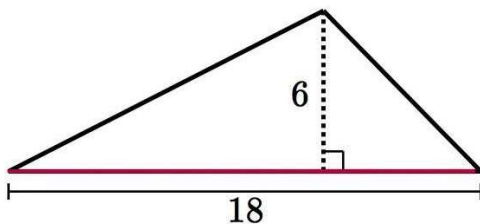
ANSWER: _____

43. State the name of the 3D shape below: _____
What is the volume of the figure?



ANSWER: _____

44. Find the area of the triangle below.



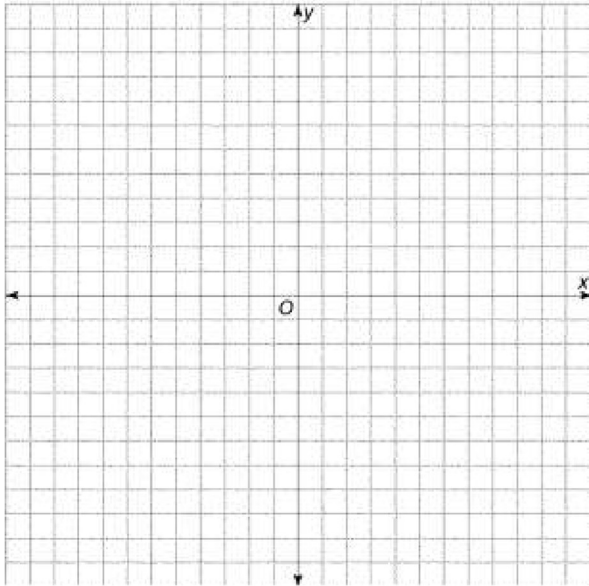
ANSWER: _____

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45. 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.



AREA: _____

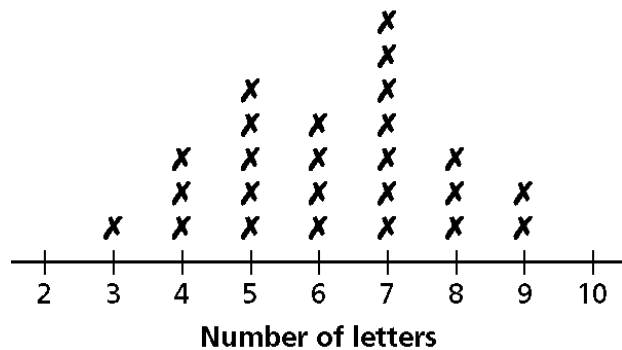
PERIMETER: _____

TOTAL SCORE: _____ of 4

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.

Lengths of Last Names



of people: _____

Mode: _____

Median: _____

Range: _____

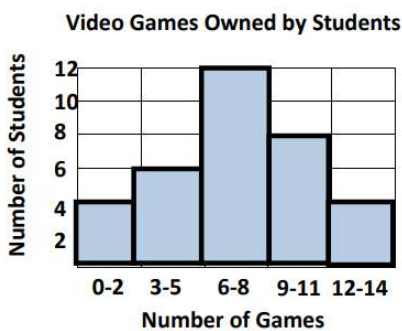
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47. Mike was in charge of collecting contributions for the Food Bank. He received contributions of \$13, \$34, \$26, \$31 and \$28 from five co-workers. Find the median value of these contributions.

ANSWER: _____

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



- a) How many students own 12-14 video games?
 b) **Most** students own about how many video games?

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 (aka 2nd quartile), third quartile, and maximum) and then represent the data with a **boxplot**.

Min = _____ Q1 = _____ Q2: _____ Q3: _____ Max: _____

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

TOTAL SCORE: _____ of 5