Monroe Township School District

Monroe Township, New Jersey

Entering 7TH GRADE MATHEMATICS RESOURCE CLASS

Summer Preparation Packet 2025-2026

SOLVE EACH PROBLEM AND **SHOW ALL WORK**

You will be responsible for handing in the completed packet with all work shown ON THE FIRST DAY OF SCHOOL. If you cannot print the packet, you can show your work on a separate piece of paper, be sure to number each problem. The problems here are very 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! ☺

Here are some websites you might find particularly useful:

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

Name: _____

RATIOS AND PROPORTIONAL REASONING

1. You drive a distance of 240 miles and use 10 gallons of gas. How many miles does your car go on **one gallon** of gas?

ANSWER: _____

2. If you are paid $20 for 4 hours of work. How much money will you make in **one hour**?

ANSWER: _____

3. A volleyball team won 10 of its 16 games. Write this as a **ratio**.

ANSWER: _____

4. The adult-child ratio at a local daycare center is 3 to 12. At the same rate, how many adults are needed for 48 children? **(Set this up as a proportion).**

ANSWER: _____

5. 17 out of 20 adults surveyed said they owned a cell phone. Represent the ratio 17 out of 20 as a percent. **(Remember % means "out of 100").**

ANSWER: _____

6. Decide whether the pair of ratios form a proportion $\frac{15}{12} = \frac{5}{4}$

ANSWER: _____

7. Solve the proportion $\frac{y}{10} = \frac{3}{5}$ **(Hint**: **cross multiply and divide)**

ANSWER: _____

8. Which is a better buy, 14oz for 98¢ or 8oz for 64¢? **(Remember to find unit rate. Find the cheaper cost for 1 oz.)**

ANSWER: _____

9. Complete the ratio table below and then write the three new **equivalent ratios**. **(Remember whatever you do with the denominator you must do the same with the numerator)**

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

ANSWERS: _____

10. Write 9% as a fraction. **(Remember a percentage is out of 100).**

ANSWER: _____

THE NUMBER SYSTEM

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

ANSWER: _____

12. What is the area of a rectangular field that is $\frac{7}{8}$ mile by $\frac{1}{2}$ miles? **(Remember: Area = L x W)**

ANSWER: _____

13. There was $\frac{2}{3}$ of a pan of lasagna in the refrigerator. Bill and his friends ate **½ of what was left**. How much of the pan did they eat? **(Remember what "OF" means & simplify your answer.)**

ANSWER: _____

14. Ms. Pike is bagging snacks for a class trip. She has 30 pretzels rods and 35 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? **(Remember GCF).**

ANSWER: _____

15. 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? **(Remember LCM).**

ANSWER: _____

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

16. **37.65 - 4.238** ANSWER: _____	17. **297.57 ÷ 6.5** ANSWER: _____
18. **417 + 37.95** ANSWER: _____	19. **12.08 × 35.2** ANSWER: _____

20. Complete the table.

Fraction Decimal: divide top by bottom

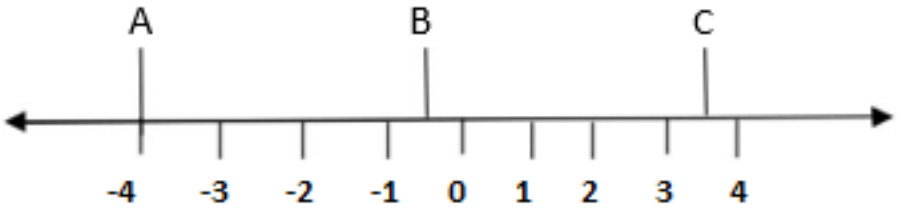
Decimal Fraction: put over place value & simplify

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%

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



ANSWER: A_____ B_____ C_____

Find the product or quotient. Show all work.

22. $2\frac{1}{2} \; x \; \frac{7}{8} =$ **(Remember to change to improper fraction first)**

ANSWER: _____

23. $\frac{5}{6} \div 12 =$ **(Remember: Keep, switch/change, flip)**

ANSWER: _____

24. $5 \div \frac{3}{10} =$ **(Remember: Keep, switch/change, flip)**

ANSWER: _____

25. What is $\frac{2}{3} of \; 120$? **(Remember what '*of*' means in math)**

ANSWER: _____

EXPRESSIONS AND EQUATIONS

26. Solve $3^3 \div 9 + 15 \times 4$ (**Remember PEMDAS)**

ANSWER: _____

27. Evaluate for $x = 7$

$x + 13 =$

ANSWER: _____

28. Solve for x.

$x - 10 = 20$

ANSWER: _____

29. Write an algebraic expression for "a number *p* **<u>increased</u>** by 7."

ANSWER: _____

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

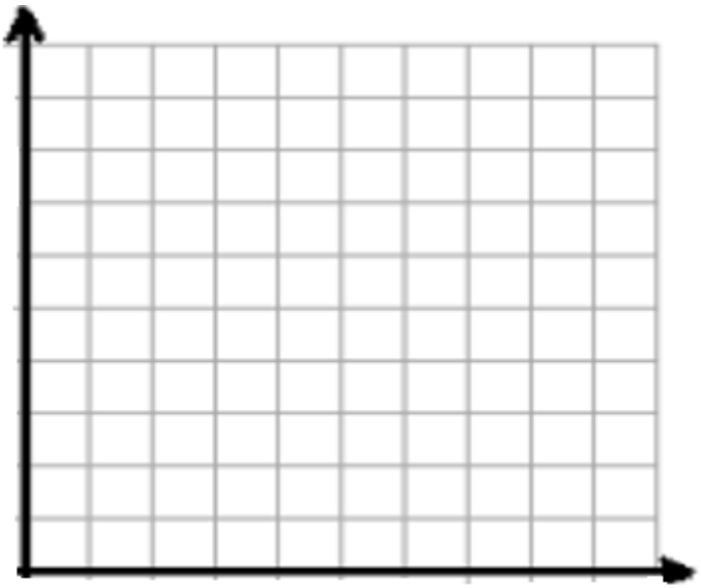
ANSWER: _____

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

- Use the table below to create a ***line*** graph on the grid. **Remember to select a scale and title the graph.**

Miles	Money
0	0
1	$5
2	$10
3	$15
4	$20
5	$25
6	$30

MONEY



MILES

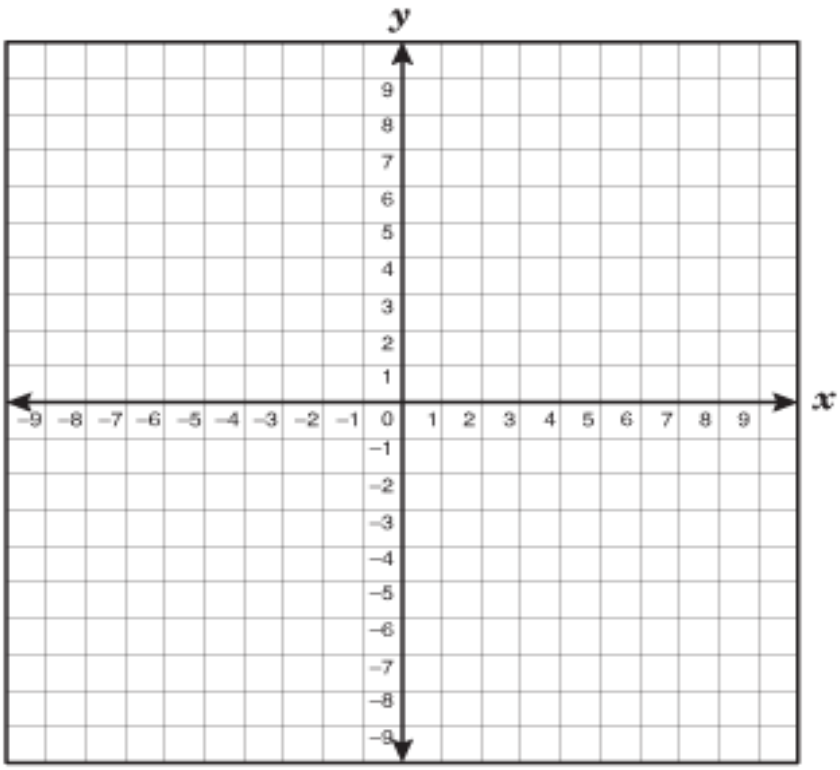
- **Write a rule relating the miles walked to the money collected.**

Rule: _____

GEOMETRY

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

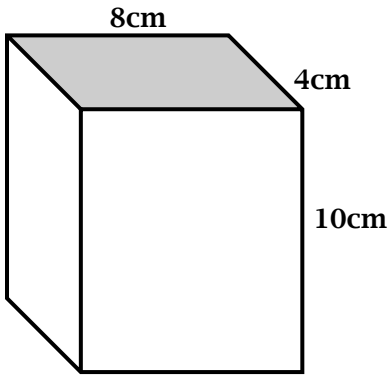
- Add a fourth point to create a **rectangle**.
- **Give the coordinates** of the new point. New point: _(_____, _____)
- Find the perimeter of the rectangle created *(HINT: ADD all sides together)*: _____
- Find the area of the rectangle created *(HINT: A= L x W)*: _____



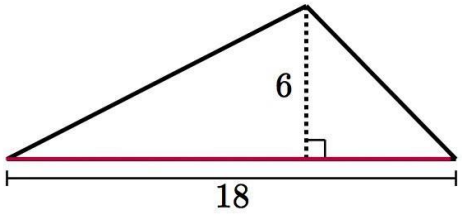
33. What is the volume of the figure?

Volume Formula:

$$V = l \; x \; w \; x \; h$$



34. Find the area of the triangle below.



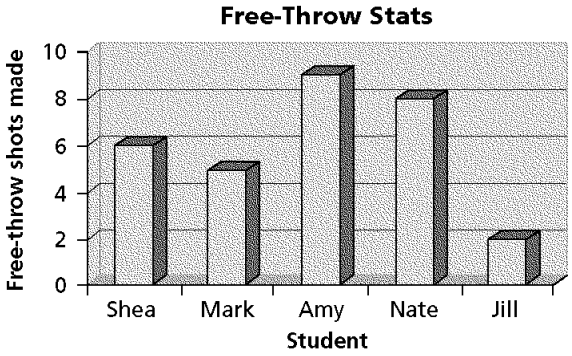
ANSWER: _____

Area of Triangle = $\frac{b\ x\ h}{2}$

(multiply the base and the height and divide the answer by 2)

STATISTICS AND PROBABILITY

35. 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

REVIEW: COMMON CORE STATE STANDARDS (CCSS): Grade 6

Ratios and Proportional Relationships 6.RP

- Understand ratio concepts and use ratio reasoning to solve problems

The Number System 6.NS

- Apply and extend previous understandings of multiplication and division to divide fractions by fractions.
- Compute fluently with multi-digit numbers and find common factors and multiples.
- Apply and extend previous understandings of numbers to the system of rational numbers**.**

Expressions & Equations 6.EE

- Apply and extend previous understandings of arithmetic to algebraic expressions.
- Reason about and solve one-variable equations and inequalities.

Geometry 6.G

- Solve real-world and mathematical problems involving area, surface area, and volume.

Statistics and Probability 6.SP

- Develop understanding of statistical variability**.**
- Summarize and describe distributions**.**

PREVIEW: COMMON CORE STATE STANDARDS (CCSS): Grade 7

Ratios and Proportional Relationships 7.RP

- Analyze proportional relationships and use them to solve real-world & math problems

The Number System 7.NS

- Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers

Expressions & Equations 7.EE

- Use properties of operations to generate equivalent expressions
- Solve real-life and mathematical problems using numerical and algebraic expressions and equations

Geometry 7.G

- Draw, construct, and describe geometrical figures and describe the relationships between them.
- Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.

Statistics and Probability 7.SP

- Use random sampling to draw inferences about a population.
- Draw informal comparative inferences about two populations.
- Investigate chance processes and develop, use, and evaluate probability models.