EPCS

65 W. Demarest Avenue
Englewood, NJ 07631

2023-24 6th Grade Preparation Packet

Welcome to 6th Grade Mathematics! Our 6th Grade Mathematics Course is a comprehensive course that will provide you with the fundamental tools of mathematical understanding that will support you in future math courses. Since you will be taking 6th Grade Mathematics after successful completion of 5th Grade Mathematics, this preparation packet contains review material of the 5th grade concepts, skills, and procedures that should be mastered **BEFORE** entering 6th grade in the fall. Essentially, the packet provides a review of the major 5th grade topics as well as a preview of the 6th grade learning standards.

Here are some websites you might find particularly useful:

- iReady.com
- http://www.khanacademy.org/
- www.ixl.com/math/
- www.brainpop.com
- www.geogebra.org
- www.math-aids.com
- www.jeopardylabs.com
- www.kutasoftware.com

This collection of problems will identify those concepts 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 these problems 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 Math… so we strongly encourage you to include this packet in your summer festivities! Good luck and enjoy!

Name: _____ Parent Signature: _____

6th Grade Preparation Packet Score: _____/50

1) Write a numerical expression for the product of eight and four.

2) Write the first five terms in the pattern, starting with the number zero:

The rule: add 19.

_____, _____, _____, _____, _____

3) Simplify **28 – 12 ÷ 3 + (22-9)**

4) Complete the table. Write a rule for completing the table:

Input	Output
4	28
5	35
8	56
	77
13	

Rule: _____

5) The table below shows the number of gallons of gasoline in the gas tank each second as it fills. If the pattern continues, how much gas will be in the tank after 6 seconds?

Seconds Pumping Gasoline	1	2	3	4
Gallons in the Tank	0.35	0.70	1.05	1.40

6) Which expression shows how to solve 3×78 with mental math.

A. $(3\times7) + (3\times8)$

B. $(3\times70) + (3\times8)$

C. $(3\times70) + (3\times80)$

D. $(7\times30) + (8\times3)$

Number and Operations in Base Ten

7) Write the number *nine and thirty − five thousandths* in standard form.

8) Order the following from greatest to least:
$47.021, \quad 47.012, \quad 47.102, \quad 47.210$

_____, _____, _____, _____

9) Write the following in standard form.

$$(7\times100) + (5\times10) + (3\times1) + \left(4 \times \frac{1}{10}\right) + \left(9 \times \frac{1}{100}\right)$$

10) Write 10^7 in standard form.

_____

11) Megan's check for lunch at Luigi's Pizzeria was $\$11.78$. She paid with a $20 bill. How much change did she receive?

12) Describe the rule for the following pattern and name the next three terms.

180,000 18,000 1,800 180 _____ _____ _____

Rule: _____

13) Insert $>, <$ *or* $=$ to make the following statement true. 0.78 _____ 0.091

14) Write $5,627.9$ in expanded form.

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15) What is the **place value** of the underlined digit in the number below?

672.38<u>9</u> _____

16) Round 284.563 to the nearest hundredth. _____

17) What is the **value** of the underlined digit in the number below?

68,073.2<u>9</u>5 _____

18) Simplify the expression. $18 \div 3 + (30 - 20 + 4) \times 3$

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

19) $5,472 \div 12 =$	20) $1,346 \times 49 =$
21) $17 + 8.7 =$	22) $12,894 \div 2 =$

23) $8,543 - 210 =$	24) $10,000 - 187 =$
25) $7 - 3.98 =$	26) $786 + 1,238 + 27 + 5 =$

NUMBER AND OPERATIONS – FRACTIONS

27) Katie works 2 days a week after school. On Monday she works $3\frac{1}{3}$ hours and on Wednesday she works $4\frac{1}{2}$ hours. How many more hours does she work on Wednesday?

28) It takes $\frac{5}{6}$ cup of ice cream and $\frac{3}{4}$ cup milk to make a milkshake. How many cups is that altogether?

29) Jimmy lives $\frac{4}{5}$ of a mile from school. Billy lives twice as far as Jimmy. How far does Billy live from school?

30) Three students shared a pizza. One student ate $\frac{1}{6}$ of the pizza, another ate $\frac{1}{4}$ of the pizza and the third student ate the rest. What fraction of the pizza was the third student's portion?

31) $\frac{2}{3}$ of the seats on the bus are reserved for students and $\frac{1}{7}$ of the seats are reserved for teachers. What fraction of the seats are available for additional chaperones?

Directions: Find the sum or difference. Show all work.

2) $8 - 3\frac{2}{3} = =$	33) $\frac{2}{5} + \frac{1}{4} =$

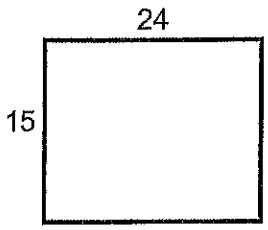
) $2\frac{4}{9} - \frac{1}{5} =$	35) $22 - 8\frac{1}{6} =$
) $1\frac{1}{6} - \frac{2}{3} =$	37) $7\frac{1}{6} + 2\frac{3}{4} =$

Measurement and Data

38) Jack is hiking a 3 mile trail. He has hiked 1,000 ft. How many feet does Jack have left to hike?

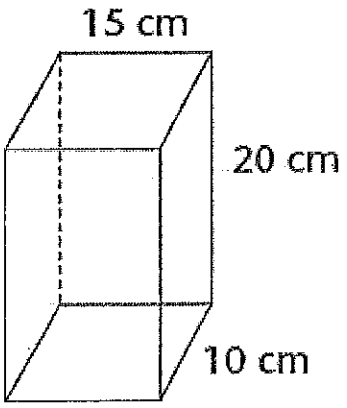
How many feet is 3 miles?	How many more feet does he have left to hike?

39) Find the area of the rectangle. **Label your answer.**



Show your work here.

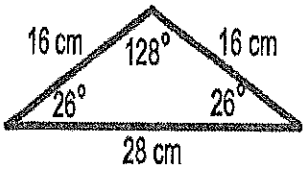
40) What is the volume of the figure shown? All units measured in feet. **Label your answer.**

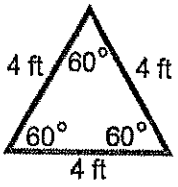


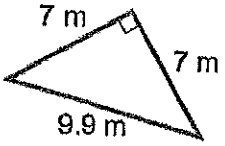
Show all work here.

41) Jessica made a time capsule using a box that is 18 in long, 12 in wide and 16 in tall. What is the volume of the time capsule?

42) Classify each triangle below by its **sides** and **angles:**



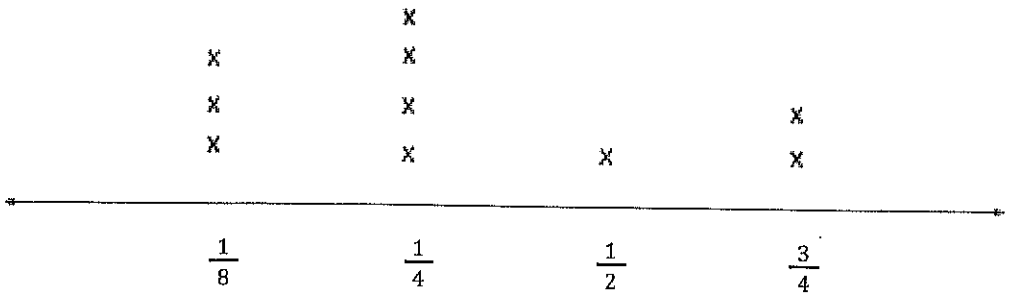




Side:	Side:	Side:
Angle:	Angle:	Angle:

43) A class was picking straws from a big pile and then using a ruler to measure the length of each straw. They recorded the lengths of the straws picked in the line plot below. Use the line plot to answer the questions that follow.

Lengths of Straws



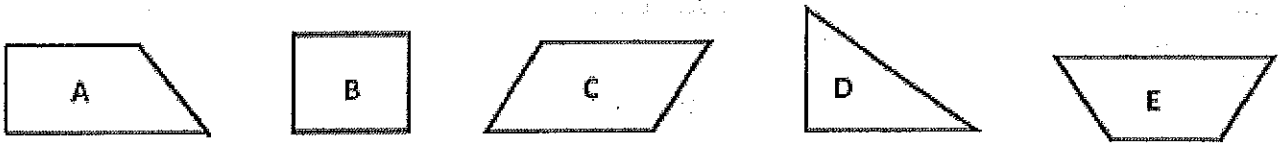
Length (inches)

a) Which straw length was the most frequent?

b) How many students are in the class?

GEOMETRY

44) Which quadrilateral has two acute angles, two obtuse angles, and two pairs of opposite parallel sides?



45) Plot the following points on the coordinate plane:

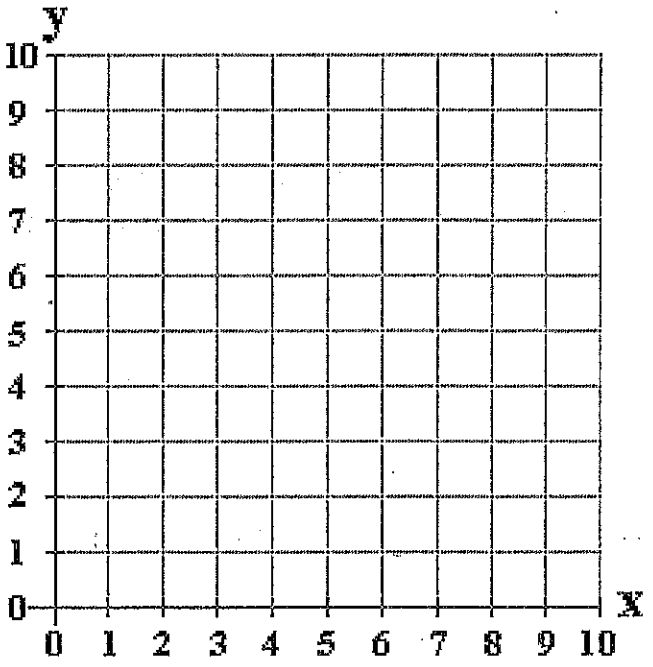
$A\ (2, 3)$ $B\ (2, 8)$ $C\ (5, 8)$ $D\ (5, 3)$

Connect the points

Name the figure_____

Find the area of the figure

_____



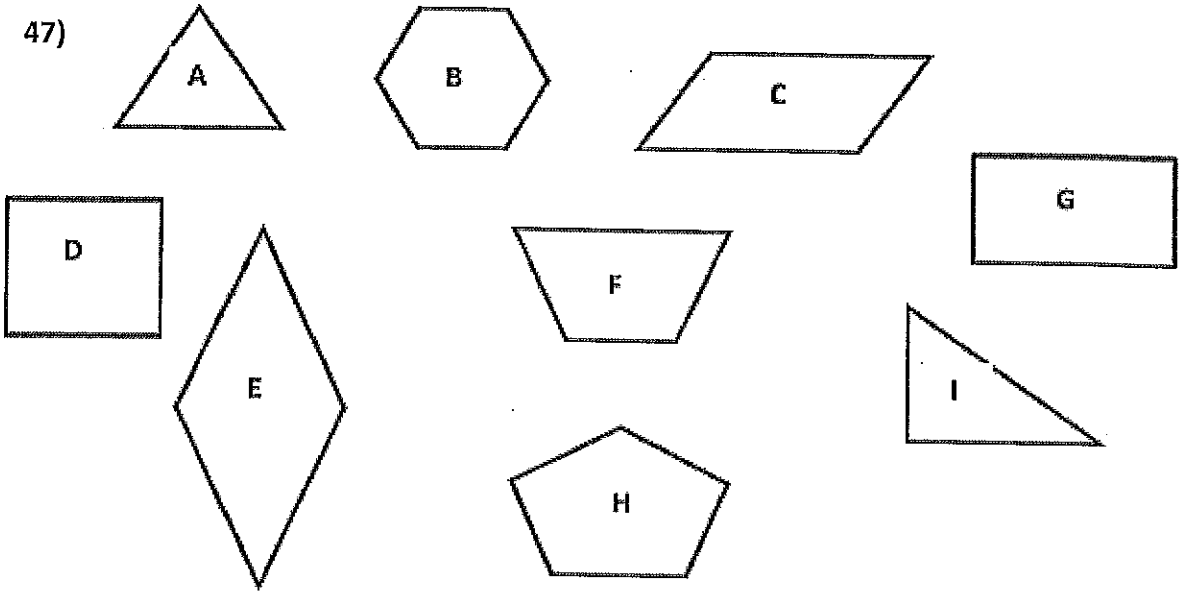
46) Use the clues below to identify the figure:

- The figure has two obtuse angles and two acute angles.
- The figure has four sides.
- All of the figure's sides are congruent.
- The figures opposite sides that are parallel.

Name of the figure: _____

Directions: Write the letter of all the shapes above that fit into each of the categories below. ***(You may use a shape more than once.)***

47)



Contain at least 1 right angle _____

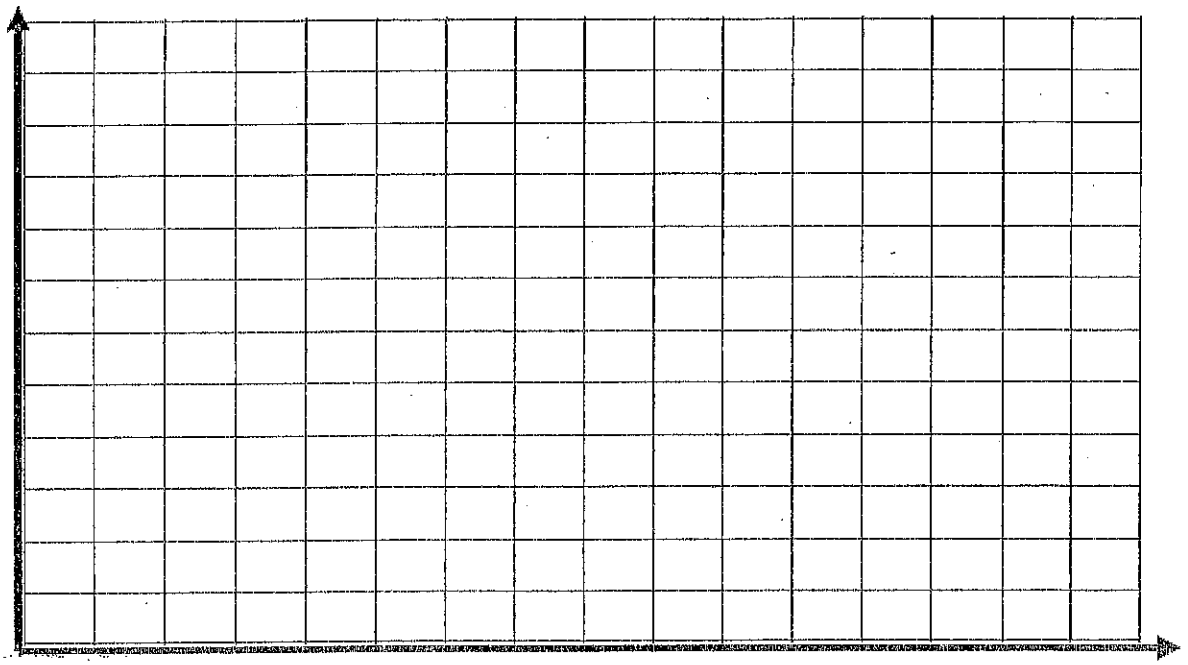
Quadrilateral _____

Rectangle _____

Parallelogram _____

48) The temperature in Noelle's house from 9:00 a.m. **to** 7:00 p.m. is recorded in the table below. Make a line graph to display the information. **Remember to label the graph and give it a title.**

Time	9 am	11 am	1 pm	3 pm	5 pm	7 pm
Temperature	82°	80°	83°	88°	85°	80°



What was the **approximate** temperature in Noelle's house at 2:00 pm? _____

What was the **difference** in temperature from 11:00 a.m. to 1:00 pm? _____