

Dear Parents/Guardians and Students,

Welcome to the world of sixth grade math. Similar to the summer reading program all students within the district will be completing a summer math packet prior to the start of sixth grade. Nissitissit and Hawthorne Brook Middle School math teachers have developed this packet for students. The primary motivation for this packet is to refresh and maintain the skills learned in fifth grade. No concept in this packet should be new to your child.

We recommend that you and your child work together twice a week for approximately 20 minutes/session to complete this packet by the start of school. Please do and **show all** work in pencil, no calculators are to be used. We encourage you to assist your child as needed. We have listed websites and resources that may also be useful in assisting your child on the back of this sheet. This packet will be collected within the first week of school and will be scored as a quiz grade.

Also, we feel it is important that you are aware of the math skills and tools that your child is expected to have mastered as a math foundation. By now, your child should

\* be fluent in his/her **basic math facts** (addition, subtraction, multiplication, and division). Many children need to move from their concrete stages of finger counting to memorization of facts. Home-made flashcards and drill will assist with mastery.

\* be able to complete basic math computations such as

1. adding/subtracting whole numbers and decimals with at least 3-digits, with regrouping,
2. multiplying a 3-digit number by a 2-digit number (whole numbers and decimals),
3. dividing a 3-digit number by a 2-digit number (whole numbers and decimals)

\* have a **mastery** of place value concepts (whole numbers and decimals)

\* have **understanding** of fractional concepts including

1. fractional terms: (numerator, denominator, improper fraction, mixed number, simplest form, least common multiple, and greatest common factor)
2. addition, subtraction, and multiplication of fractions and mixed numerals with like and unlike denominators, i.e.  $\frac{1}{3} + 3\frac{1}{2}$ ,  $\frac{4}{5} \times \frac{3}{7}$
3. simplification of fractions,  $\frac{3}{6} = \frac{1}{2}$

\* have **mastery** of basic geometric shapes and terms. Geometric terms include, line, point, ray, angle, polygon, quadrilateral, triangle, circle, diameter, radius, area, perimeter, circumference.

We thank you very much for the effort and support in making the start of the school year a success. We hope you enjoy your summer vacation, and we look forward to working with your child this fall.

Sincerely,

Grade 6 Math Teachers

## Math Skills Book

\*\*\*\* Summer Math Skills Sharpener HIGHLY RECOMMENDED. Through Tri-c Publications. Can be ordered by phone (888)595-6595 or on-line [www.summerskills.com](http://www.summerskills.com) Order for grade 5.

\*\*\*\*\* EVERYTHING YOU NEED TO KNOW ABOUT MATH HOMEWORK Anne Zeman and Kate Kelly, Scholastic Publications (good desk reference for students and parents)

Other skills books can be found at Toys R Us, Barnes and Noble, Borders, or Amazon.com.

**Math Software:** (Best Buy, Circuit City, Computer City, Amazon.com are good resources)

Math Blaster (Knowledge Adventure)

Math for the Real World (Knowledge Adventure)

Paws and Pyramids (Gamco)

Turbo Math Maniacs (Nordic)

Math Adventures (Broderbund)

## **Math Websites:**

[eduplace.com](http://eduplace.com)

[Edgate.com](http://Edgate.com)

[iRiddler.com](http://iRiddler.com)

[familyeducation.com](http://familyeducation.com)

[yahooligans.com/School\\_Bell/math/](http://yahooligans.com/School_Bell/math/)

[aaamath.com](http://aaamath.com)

[mathforum.org](http://mathforum.org)



**IMPORTANT:** Complete all problems 1-60. **SHOW ALL COMPUTATIONAL WORK.** Do all work in pencil. Follow all directions as given.

1. Change to equivalent fractions with a common denominator.

$$\frac{3}{4} = \boxed{\phantom{000}} \quad \frac{5}{6} = \boxed{\phantom{000}} \quad \frac{1}{2} = \boxed{\phantom{000}} \quad \frac{2}{3} = \boxed{\phantom{000}} \quad \frac{7}{12} = \boxed{\phantom{000}}$$

2. Order the above **reduced** fractions from least to greatest value.

Find the Least Common Multiple (LCM) of the following numbers: Show your work!  
Remember, multiples are products. For example, the multiples of 2 are 2, 4, 6, 8, . . .

3. 12 and 15 =

4. 4, 8, and 12 =

List Multiples of 15: \_\_\_\_\_

List Multiples of 12: \_\_\_\_\_

List Multiples of 12: \_\_\_\_\_

List Multiples of 8: \_\_\_\_\_

List Multiples of 4: \_\_\_\_\_

Find the Greatest Common Factor (GCF) of the following numbers: Factors **DIVIDE EVENLY** into a whole number. For example, the factors of 12 are 1, 2, 3, 4, 6, and 12.

5. 14 and 28 =

6. 60 and 84 =

List the factors of 28: \_\_\_\_\_

List the factors of 84: \_\_\_\_\_

List the factors of 14: \_\_\_\_\_

List the factors of 60: \_\_\_\_\_

Find the sum: Remember to use COMMON DENOMINATORS. Simplify.

$$7. \frac{2}{7} + \frac{3}{7} = \boxed{\phantom{00}}$$

$$8. \frac{5}{6} + \frac{2}{3} = \boxed{\phantom{00}}$$

$$9. 2\frac{4}{5} + \frac{3}{10} = \boxed{\phantom{00}}$$

*work:*

Find the difference: Remember to use COMMON DENOMINATORS. Simplify.

$$10. \frac{7}{8} - \frac{3}{8} = \boxed{\phantom{00}}$$

$$11. \frac{9}{16} - \frac{1}{4} = \boxed{\phantom{00}}$$

$$12. 7\frac{5}{6} - 3\frac{2}{3} = \boxed{\phantom{00}}$$

*work:*

Find the product: Remember to **change mixed numbers to improper fractions**. Simplify.

$$13. \frac{1}{6} \times \frac{5}{7} = \boxed{\phantom{00}}$$

$$14. \frac{2}{3} \times \frac{1}{2} = \boxed{\phantom{00}}$$

$$15. 2\frac{1}{3} \times 2\frac{1}{4} = \boxed{\phantom{00}}$$

Find the quotient. Express your remainder as a fraction in lowest terms.

$$16. 270 \div 8 = \underline{\hspace{2cm}}$$

$$17. 847 \div 25 = \underline{\hspace{2cm}}$$

18. Matt had 12 tickets for the Red Sox Game. He gave  $\frac{3}{4}$  of them to his friends. How many tickets did he give away? *Hint: use model drawing.*

Work:

Write each number in standard form. **Example:** *forty-three and two hundredths* = 43.02

19. Six thousand, thirty-two = \_\_\_\_\_

20. three hundredths = \_\_\_\_\_

21. Three million, two = \_\_\_\_\_

22. fifty thousandths = \_\_\_\_\_

Round each number to the stated place value. **Example:**  $4.\underset{\uparrow}{3}4$  (to tenths place) = 4.3

23. 4,350 (to the hundreds place) = \_\_\_\_\_

24. 2.549 (to the tenths place) = \_\_\_\_\_

25. \$43.875 (to the nearest cent) = \_\_\_\_\_ (the cent place value = the hundredths place value)

Compare these numbers using the following symbols: > (greater than), < (less than), = (equal to).

26. 17.9 ○ 17.95

27. 0.06 ○ 0.006

28. 0.505 ○ 0.55

29. Arrange the following decimals in order from least to greatest.

0.369, 0.3, 0.069, 3.09

Show all work below each of these problems. **Remember to line up decimal points, add zeros if needed.**

30. Find the sum of 3.6 and 12.51

31. Find the sum of 2 and 3.82

32. Find the difference between 5.03 and 0.28

33. Find the difference between 16 and 4.2

Multiply the following decimals: Remember to count decimal places for the product.

34.  $0.03 \times 2 =$  \_\_\_\_\_

35.  $2.6 \times 1.8 =$  \_\_\_\_\_

Find the quotient. Express your remainder as a decimal. If necessary round to the nearest tenth.

**Example:**

$$\begin{array}{r} 2 \overline{)5} = 2 \overline{)5.0} \\ \underline{4} \phantom{0} \\ 10 \\ \underline{10} \\ 0 \end{array}$$

36.  $233 \div 4 =$  \_\_\_\_\_

37.  $723.2 \div 32 =$  \_\_\_\_\_

38. Marsha bought 25 stamps for \$0.37 each. How much did she spend?

*Work:*

39. A log is 25 feet long. You want to cut it into 7 equal pieces. What will be the length of each piece. Express your answer as a decimal rounded to the nearest tenth.

*Work:*

40. Grant went to the mall with \$100. He bought a shirt for \$24.99, a pair of sneakers for \$30 and a hat for \$12.50. How much money did he have left?

*Work:*

**Use the information below for questions 41 - 45**

During the basketball season Kristen scored 20 points, Maddie scored 22 points, Jacquie scored 15 points, Jennifer scored 18 points, and Meghan scored 22 points.

41. What is the mode? \_\_\_\_\_ 42. What is the median? \_\_\_\_\_

43. What is the range in points? \_\_\_\_\_

44. Find the average points scored during the season. Average = \_\_\_\_\_  
Round the nearest whole number.

*Work:*

45. Using the grid on your answer sheet, construct a bar graph that displays the data from above. Be sure to include all labels. Remember that bars do not touch.

Evaluate, or solve, the following expressions using the order of operations: PEMDAS

46.  $14 + 6 \times 2 =$  \_\_\_\_\_

47.  $42 \times 5 + 5 =$  \_\_\_\_\_

48.  $10^2 + 42 =$  \_\_\_\_\_

49.  $15 \times (28 - 8) =$  \_\_\_\_\_

Use the formulas below to solve the following problems.

**Perimeter** of a Rectangle = 2 times the length plus 2 times the width  $P = 2l + 2w$  (*units*)

**Area** of a rectangle = length times width  $A = lw$  (*square units*)

50. Find the perimeter. = \_\_\_\_\_

15 ft

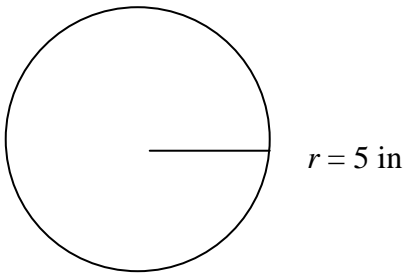


51. Find the area. = \_\_\_\_\_

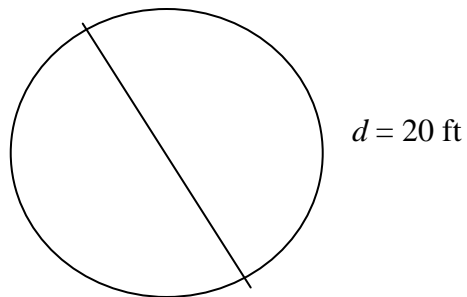
13 yds



52. What is the diameter of the circle below? \_\_\_\_\_



53. What is the radius of the circle below? \_\_\_\_\_



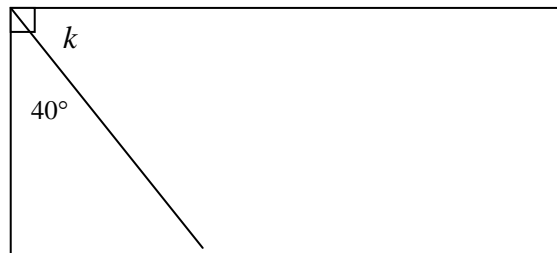
On your answer sheet

54. Draw an acute angle

55. Draw an obtuse angle

56. Find the measure of angle  $k$  in the rectangle.

Angle  $k$  = \_\_\_\_\_



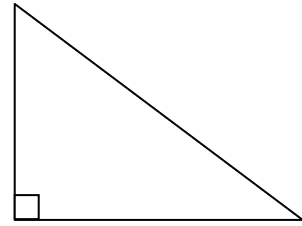
Identify these shapes

57.



\_\_\_\_\_

58.



\_\_\_\_\_ triangle

59. A car cost \$45,000. Ms. Parker saves \$1,500 per month. How many months will she need to save?

Answer: \_\_\_\_\_

60. Hamburg patties sell for \$1.89 per pound. Joey bought 12 pounds. How much did he spend?

Answer: \_\_\_\_\_

**Answer Sheet: Summer Math Packet**

Name: \_\_\_\_\_

Record your answers on this sheet IN PENCIL. You must include your packet with your work for credit.

1.  $\frac{3}{4} =$  \_\_\_\_\_       $\frac{5}{6} =$  \_\_\_\_\_       $\frac{1}{2} =$  \_\_\_\_\_       $\frac{2}{3} =$  \_\_\_\_\_       $\frac{7}{12} =$  \_\_\_\_\_

2. \_\_\_\_\_

3. LCM of 12 and 15 = \_\_\_\_\_

4. LCM of 4, 8, and 12 = \_\_\_\_\_

5. GCF of 14 and 28 = \_\_\_\_\_

6. GCF of 60 and 84 = \_\_\_\_\_

7. \_\_\_\_\_

8. \_\_\_\_\_

9. \_\_\_\_\_

10. \_\_\_\_\_

11. \_\_\_\_\_

12. \_\_\_\_\_

13. \_\_\_\_\_

14. \_\_\_\_\_

15. \_\_\_\_\_

16. \_\_\_\_\_

17. \_\_\_\_\_

18. \_\_\_\_\_

19. \_\_\_\_\_

20. \_\_\_\_\_

21. \_\_\_\_\_

22. \_\_\_\_\_

23. \_\_\_\_\_

24. \_\_\_\_\_

25. \_\_\_\_\_

26. 17.9 \_\_\_\_ 17.95

27. 0.06 \_\_\_\_ 0.006

28. 0.505 \_\_\_\_ 0.55

29. \_\_\_\_\_

30. \_\_\_\_\_

31. \_\_\_\_\_

32. \_\_\_\_\_

33. \_\_\_\_\_

34. \_\_\_\_\_

35. \_\_\_\_\_

36. \_\_\_\_\_

37. \_\_\_\_\_

38. \_\_\_\_\_

39. \_\_\_\_\_

40. \_\_\_\_\_

41. Mode = \_\_\_\_\_

42. Median = \_\_\_\_\_

43. Range = \_\_\_\_\_

44. Average = \_\_\_\_\_

45. Draw your graph on the back of this sheet

46. \_\_\_\_\_

47. \_\_\_\_\_

48. \_\_\_\_\_

49. \_\_\_\_\_

50. Perimeter = \_\_\_\_\_

51. Area = \_\_\_\_\_

52. Diameter = \_\_\_\_\_

53. Radius = \_\_\_\_\_

54. Acute Angle:

55. Obtuse Angle:

56. \_\_\_\_\_

57. \_\_\_\_\_

58. \_\_\_\_\_

59. \_\_\_\_\_

60. \_\_\_\_\_

45. Remember labels and that bars do not touch!

\_\_\_\_\_


\_\_\_\_\_