

Dear Parents/Guardians and Students,

We hope you are enjoying a restful and relaxing summer vacation. Although it may not seem possible, the school year is rapidly approaching. Similar to the summer reading program developed by the English Language Arts Department, the Nissitissit and Hawthorne Brook Middle School math teachers have developed a packet for students to complete prior to the start of school.

This packet covers skills learned by your child in last year's math class. The primary motivation for this packet is to refresh and maintain these skills so that less class time in September is spent on review. 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 35 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. The following websites may also be useful in assisting your child: www.purplemath.com and www.coolmathalgebra.com. This packet will be collected within the first week of school and will be scored as a **quiz grade**.

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

Sincerely,

Nissitissit and Hawthorne Brook
Grade 8 Math Teachers



IMPORTANT: Complete problems 1-72. SHOW ALL COMPUTATIONAL WORK. Follow all directions as given.

1. Evaluate: $2x - 8y^2$ for $x = -2$ and $y = -3$.

2. $30,243 - 11,856$

3. Solve. $\frac{2}{3}(9b - 27) = 36$

4. The $\sqrt{20}$ is between ____ and ____.

5. Find the product. $.26 \cdot .5$

6. Add. $-5\frac{3}{4} + 3\frac{2}{3}$

7. Find the product. $8\frac{1}{2} \cdot 1\frac{13}{17}$

8. Find the quotient. $15\frac{3}{4} \div 4\frac{1}{5}$

9. Find the sum. $.098 + .93$

10. Solve for x. $4x + 2 = 16$

11. Twice a number and 8 is 22.

- Write an equation.
- Find the number.

12. Solve for x. $-4 = -7 - x$

13-16. Write as a decimal.

a. $\frac{17}{18}$

b. $\frac{3}{11}$

c. $\frac{14}{55}$

d. $\frac{5}{99}$

17-19. Compare using $>$, $<$, or $=$.

a. $|-4|$ _____ $|4|$

b. $|-2 - 1|$ _____ $|2 - 1|$

c. $|-4 \cdot 7|$ _____ $|4 \cdot 7|$

20. Ron's cookie recipe calls for $\frac{3}{4}$ pound of butter. To triple the recipe, how much butter must you use?

21. Make a stem-and-leaf plot.

15, 22, 25, 10, 36, 15, 28, 35, 18, 36, 14, 62, 9, 11, 22

22-23. a. What is sum of the measures of the interior angles of a pentagon?

b. What would be the measure of each interior angle of a regular pentagon?

24. Mark is making toys for an arts and crafts fair. Each toy costs \$1.80 each. If he sells the toys for \$3.00 each how many will he have to sell to make a profit of exactly \$36.00.

25. The first seven numbers of a sequence are 1,1,2,3,5,8,13.
a. Find the next two terms.

26. Round 4.27895 to the nearest hundredth.

27. Order from smallest to largest.

28. Simplify: $14 \div [3(8-2) - 11]$

$$\frac{1}{5} \quad 5\% \quad 0.5 \quad 5^{-3}$$

29. Add. $3^2 + 4^2$

30. Solve for x. $\frac{x}{2} - 3 = 6$

31. Evaluate: $\frac{P}{13-x}$ when $P = -20$ and $x = -3$.

32. Reduce to lowest terms: $\frac{42}{72}$

33. What is the reciprocal of $-\frac{3}{8}$?

34. Arrange from smallest to largest:

$$\frac{2}{3}, \quad -\frac{7}{8}, \quad \frac{1}{2}, \quad -\frac{5}{16}$$

35. Find $3\frac{2}{3} \cdot 1\frac{4}{5}$.

36. Find the product of $-9(-8)(-5)$.

37. Simplify: $16 \cdot 2 - (3 - 5)$

38. Find the product of $(0.08 \cdot 40.05)$.

39. Evaluate: $\frac{6x}{-y} + z^3$ when $x = -3$, $y = -2$, and $z = -3$

40. 30% of 55 is?

41. What percent of 14 is 3.5?

42. .065 is same as what %?

43. Evaluate 2^{-2} .

44. Solve. $\frac{3a-1}{5} = 2$

45. Two cheeseburgers contain 732 calories. Suppose you use 175 cal/h by walking. Approximately how long would you need to walk to use the calories from four cheeseburgers?

46-49. Write the following fractions as percents.

a. $\frac{1}{5}$

b. $\frac{7}{8}$

c. $\frac{1}{3}$

d. $\frac{1}{9}$

50. Find the next three numbers in the following pattern.

1, 3, 9, 27, _____, _____, _____

51. Find the mean, median, and mode.

37, 42, 51, 28, 36

52. Find 32% of 60.

53. Solve. $\frac{3}{5}x + \frac{1}{2} = 4\frac{1}{10}$

54. Find the difference. $4\frac{3}{7} - 7\frac{3}{4}$

55. Solve. $-13 + 3x = -46$

56. Change $3\frac{1}{2}\%$ to a simple fraction.

57. Solve. $\frac{2}{34} = \frac{5x}{17}$

58. Consider the expression: $4w + 3x - 8y - 5w$

- How many terms are in this expression? _____
- What is the coefficient of y ? _____
- Name two like terms. _____
- Name two unlike terms. _____

59. The sum of the measures of the angles of a polygon is $1,260^\circ$. Explain how you can find the number of sides of the polygon.

60. What is the probability of randomly drawing a Jack from a standard 52-card deck of playing cards?

61. There are 7 green, 1 yellow, 3 blue, and 4 red marbles in a bag. What is the probability of reaching in and randomly pulling out a blue marble?

62. What is the perimeter of a regular hexagon with a side length of 24 in.?

63. What is the probability of rolling an even number on a 6-sided fair die?

64. $400 \text{ cm} = \underline{\hspace{2cm}} \text{ m}$

65. Simplify $-7x + 2x - 6 - 4x - 3$

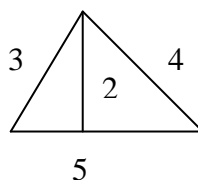
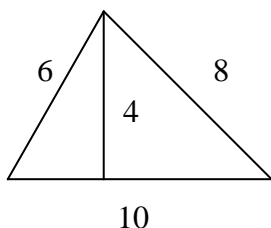
66. Simplify $6h - 5k - 4h - 3k - 2 - h$

67. Make a box-and-whisker plot. Flamingo heights (cm): 92, 101, 96, 85, 126, 124, 116, 97, 109

68. Which is the smallest?

- a) 7.777 b) 77 c) 7.7707 d) 7.77 e) 77.007

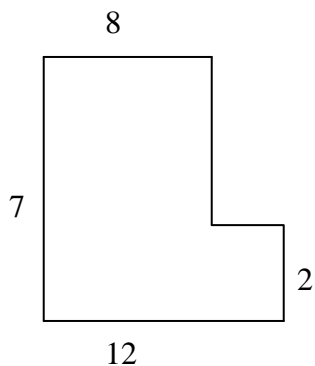
69. What is the perimeter of each figure?



70. What is the area of both figures in the problem above?

71. What is the area of a circle with a diameter of 20 cm?

72. Find the perimeter of the following figure. Assume all angles are right angles.



ANSWER SHEET. CREDIT WILL NOT BE GIVEN WITHOUT WORK. PLEASE ATTACH.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
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39. _____
40. _____
41. _____
42. _____
43. _____
44. _____
45. _____
46. _____
47. _____
48. _____
49. _____
50. _____
51. mean = _____
median = _____
mode = _____
52. _____
53. _____
54. _____
55. _____
56. _____
57. _____
58. a. _____
b. _____
c. _____
d. _____

- 59. _____
- 60. _____
- 61. _____
- 62. _____
- 63. _____
- 64. _____
- 65. _____
- 66. _____
- 67.

- 68. _____
- 69. a. _____
b. _____
- 70. _____
- 71. _____
- 72. _____

WORK SPACE.