

Dear Parents and Students,

As educators, we realize that students experience a learning loss in mathematics if not academically engaged. Consequently, at the beginning of each school year we are forced to spend an inordinate amount of time reviewing concepts from the previous math course. Our solution for this problem is to expedite the review process in the form of a summer math packet.

The purpose of these packets is to have students review concepts taught during the school year so that there is no retention loss in key concept areas and to better prepare the students for the upcoming year in mathematics.

We ask that over the course of the summer, you download and print the summer math packet that corresponds to your child(ren). If your child is entering the 9th grade then you will download the “Incoming Geometry Students” packet. All work is to be turned in the first full day of school.

As teachers, we will still be reviewing, but not reteaching.

Should you have any questions regarding the math packet please feel free to contact:

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Thank you for your understanding and cooperation. Enjoy the summer! We look forward to working with you and your child during the upcoming 2016-2017 academic term.

7 th graders	“Incoming Pre-Algebra Students”
8 th graders	“Incoming Algebra 1 Students”
9 th graders	“Incoming Geometry Students”
10 th graders	“Incoming Algebra 2 with Trig Students”
11 th graders	“Incoming Pre-Calculus Students”
12 th graders	“Incoming Calculus Students”

Pre-Algebra Summer Review Packet

About Pre-Algebra:

Pre-Algebra is a course designed to prepare students for success in future math classes, particularly Algebra 1 and Geometry. Students work with order of operations, signed numbers, solving equations, functions, polynomials, basic geometry formulas to name a few.

Summer Packet Directions:

The problems in this packet are designed to help you review content areas that are important to your success in Pre-Algebra. **Show all work and please try to do without the aid of a calculator.**

Directions: Read each question carefully. Try your best to attempt each problem. Show all work for all problems attempted. Please DO NOT use a calculator.

1. Complete the table below. Check all that apply.

	4.9	0	π	$\frac{2}{3}$	7	$\sqrt{36}$	$\sqrt{5}$
Natural							
Whole							
Integer							
Rational							
Irrational							
Real							

Perform the operations.

2. $3 + 6 \times 7 - 8$

3. $2(4 + 7)(16 - 3)$

4. $12 \div 3 \div 2 + 5$

5. $45 - 6 \times 3 + 1$

6. $4 \times (3 \times 5) - 6$

7. $56 \div 7 + 8$

Simplify each fraction.

8. $\frac{12}{18}$

9. $\frac{7}{28}$

10. $\frac{24}{45}$

Write each improper fraction as a mixed number.

11. $\frac{26}{3}$

12. $\frac{98}{25}$

13. $\frac{57}{9}$

Write each mixed number as an improper fraction.

14. $4\frac{3}{7}$

15. $11\frac{4}{5}$

16. $6\frac{1}{2}$

Perform the operations with fractions. Write answers in simplest form.

17. $\frac{5}{17} + \frac{6}{17}$

18. $\frac{4}{6} + \frac{3}{6}$

$$19. 4\frac{1}{3} + 1\frac{1}{3}$$

$$20. \frac{12}{15} - \frac{6}{15}$$

$$21. 8\frac{4}{5} - 3\frac{1}{5}$$

$$22. \frac{5}{10} + \frac{2}{5}$$

$$23. \frac{13}{14} - \frac{1}{2}$$

$$24. \frac{5}{7} + \frac{3}{9}$$

$$25. 2\frac{2}{3} - 1\frac{1}{5}$$

$$26. \frac{2}{5} \times \frac{6}{3}$$

$$27. 5\frac{6}{8} \times \frac{1}{2}$$

$$28. \frac{7}{11} \div \frac{1}{3}$$

$$29. \frac{4}{9} \div \frac{6}{7}$$

$$30. 12\frac{4}{6} \div 1\frac{2}{3}$$

Perform the operations with decimals.

$31.12.6 + 3.1$

$32.4.67 + 9.5$

$33.15.3 - 12.8$

$34.7.8 - 1.02$

$35.6.21 \times 3.1$

$36.0.25 \times 7.4$

$37.2.94 \div 3.2$

$38.10.16 \div 1.7$

Evaluate each expression.

39.2^4

40.6^2

41.1^6

Find the GCF (Greatest Common Factor) of the two numbers.

42. 32 and 56

43. 12 and 36

44. 28 and 63

Find the LCM (Least Common Multiple) of the two numbers.

45. 12 and 8

46. 15 and 20

47. 9 and 15

Evaluate each expression when $x = 4$.

$$48. 3x^2 - 8$$

$$49. 6 + x(9 - x)$$

Find the value of the variables.

$$50. 2x + 12 = 36$$

$$51. 5x - 12 = 7x$$

$$52. \frac{x}{4} = 36$$

$$53. \frac{48}{x} = 4$$

Solve the proportion.

$$54. \frac{x}{5} = \frac{6}{10}$$

$$55. \frac{2}{x} = \frac{5}{12}$$

Simplify each expression by combining like terms.

$$56. 5x - 12x - (-3x)$$

$$57. -3x + 11x + 3x - 9$$

$$58. 15 + 11x - 8x - 20$$

$$59. 7x + 10x^2 - 3x + x^2$$

Use the distributive property to simplify.

60. $3(x + 9)$

61. $-6(x + 3)$

62. $x(x + 3)$

63. $x(8 + y)$

Answer each question.

64. Jan made 17 baskets out of 25 shots she took. What was the percent of baskets made?

65. 54 books make up 25% of the books in the library. How many books are there in the library?

66. If we had a \$10.35 bill for breakfast, how much would we pay, in total, if the tax was 8%?

Determine whether the statement is TRUE or FALSE. If FALSE, explain why.

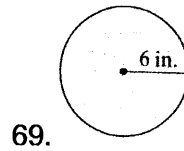
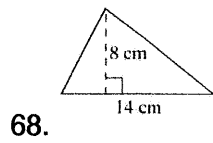
64. Each of these numbers is divisible by 3: 51, 87, 2007, 56, 789, 6321.

65. 12 has exactly 6 factors: 1, 2, 3, 4, 6 and 12.

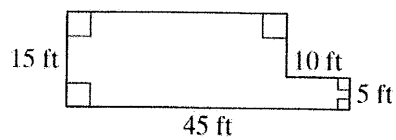
66. Each of these numbers has an odd number of factors: 9, 25, 64, 144.

67. There are only two prime numbers between 40 and 50.

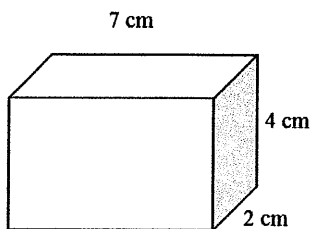
Find the area of each figure.



70. Sam plans to replace the carpeting in the room shown below. What is the area of the room?



71. Find the volume of the rectangular prism given.



72. Find the mean, median and mode of the set of data: 16, 25, 31, 14, 14, 18

Use the chart about Acres of Farmland in several states.

State	Acres (millions)
TX	131
MT	59
KS	46
NE	46
NM	46
SD	44
ND	39

73. How many acres of farmland are in Kansas?

74. Which state has the most acres of farmland?

75. Find the average farm acreage among the states given in the chart.