Math 8 Pre Algebra
Summer Packet
2018

Incoming 8th graders,

The following needs to be completed and returned the first day of school:

- The completed attached packet. If you need assistance completing the content please go to Kahn academy https://www.khanacademy.org/ or Math is Fun https://www.mathsisfun.com/ or other online resource for help. All work must be shown (no calculators). Please use a pencil!
- The completed Kahn Academy unit (see other page). Students need to complete the "Foundations in Algebra" lessons within the Algebra I course. This is 10 lessons (outlined below) consisting of videos and practice problems – watch the videos and then complete any practice problems given. Students should complete these through the Kahn Academy Login connected to Sr Elise as their teacher so that it is connected to their school account.
- Each student should complete one hour of **IXL math** work during the months of June, July, and August (each) over their summer break – working on grade level skills. Please use your school account so progress can be recorded and complete the attached IXL sheet.

Have a great summer. I look forward to seeing you in the fall!

Sr. Elise, O.P.

Dear Students and Parents,

For all incoming math students in grades 6-8, students should complete the attached packet as well as complete IXL computer time. Each student should complete one hour of math work during the months of June, July, and August (each) over their summer break – working on grade level skills.

Enjoy the summer!

Sr. Elise, O.P.

Please record your IXL work below:

	Skills I worked on:	What is my Smart Score in these skills?
June		
July		
August		

Kahn Academy

LESSONS for Algebra Foundations – You can search "algebra foundations" on Kahn's main page.
https://www.khanacademy.org/math/algebra/introduction-to-algebra

1. Overview and history of algebra
    a. Origins of algebra
    b. Abstract-ness
    c. The beauty of algebra
    d. Intro to the coordinate plane
    e. Why all the letters in algebra?
2. Introduction to variables
    a. What is a variable?
    b. Why aren't we using the multiplication sign?
    c. Evaluating an expression with one variable
    d. Evaluating expressions with one variable
3. Substitution and evaluating expressions
    a. Evaluating expressions with two variables
    b. Evaluating expressions with two variables
    c. Evaluating expressions with two variables: fractions & decimals
    d. Evaluating expressions with two variables: fractions & decimals
4. Evaluating expressions word problems
    a. Evaluating expressions with variables word problems
    b. Evaluating expressions with variables: temperature
    c. Evaluating expressions with variables: cubes
    d. Evaluating expressions with variables: exponents
5. Writing algebraic expressions introduction
    a. Writing basic expressions with variables
    b. Writing basic expressions with variables
    c. Writing expressions with variables
    d. Writing expressions with variables & parentheses
6. Dependent & independent variables
    a. Dependent & independent variables
    b. Dependent & independent variables: graphing
    c. Dependent & independent variables: equation
7. Combining like terms
    a. Intro to combining like terms
    b. Simplifying expressions
    c. Combining like terms challenge problem
    d. Simplifying expressions with rational numbers
8. Introduction to equivalent algebraic expressions
    a. Equivalent expressions
9. Interpreting linear expressions
    a. Interpreting linear expressions: diamonds
    b. Interpreting linear expressions: flowers
10. Division by zero
    a. Why dividing by zero is undefined
    b. The problem with dividing zero by zero
    c. Undefined & indeterminate expressions

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Name_____

One-Step Equations With Integers

Date_____ Period____

Solve each equation.

1) $v - 10 = -9$

2) $v - 10 = -3$

3) $x - 3 = 4$

4) $\frac{x}{5} = 2$

5) $22 = -11k$

6) $-13m = -377$

7) $b - 7 = -1$

8) $-8 = p - 13$

9) $-40 = -5p$

10) $418 = -22a$

11) $\frac{a}{29} = 5$

12) $-2 = \frac{m}{16}$

13) $x - 11 = 16$

14) $-10 = x - 21$

15) $20 = \frac{n}{4}$

16) $n - 29 = -53$

17) $-19 = b - 6$

18) $-8 = -16 + n$

19) $-9 + x = -26$

20) $29 + n = 13$

21) $21 = \frac{x}{18}$

22) $k + 1 = -27$

23) $6 = m - 16$

24) $5 = v + 29$

25) $168 = -84n$

26) $41k = -2747$

27) $\frac{x}{15} = 11$

28) $-71 = \frac{x}{64}$

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Name_____

One-Step Equations With Decimals

Date_____ Period____

Solve each equation.

1) $p + 8 = 14.1$

2) $n + 4.7 = -4.7$

3) $\frac{x}{1.2} = -7$

4) $n + 3.9 = 0.7$

5) $-6.3n = -8.19$

6) $32.663 = p + 11.363$

7) $n - 25.4 = -44.8$

8) $28.8 = 18x$

9) $x - 18 = -36.6$

10) $m - 21.1 = -36.6$

11) $\frac{x}{19.7} = 0.609137055838$

12) $-165.832 = -10.91k$

13) $\frac{a}{15.9} = -1.79245283019$

14) $n - 14.7 = 4.7$

15) $0.357142857143 = \frac{b}{4.2}$

16) $-38.48 = -5.2x$

17) $v + 6.6 = 32.1$

18) $\frac{p}{9.5} = 2.78947368421$

19) $-14.896 = r + 11.704$

20) $21.7 = m - 7.7$

21) $-1.55487804878 = \frac{n}{16.4}$

22) $n + 15.64 = -13.26$

23) $8.8 = m - 13.4$

24) $26.6 = v + 4.4$

25) $89.7x = -2296.32$

26) $-5704.74 = -73.8r$

27) $\frac{x}{41.6} = -2.34134615385$

28) $b - 43.4 = -120$

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One-Step Equations With Fractions

Date_____ Period____

Solve each equation.

1) $5\frac{1}{2} + p = 6$

2) $m - 1\frac{1}{2} = -\frac{5}{4}$

3) $-\frac{3}{4}b = 2$

4) $x - 3 = -5\frac{1}{2}$

5) $x - \frac{1}{2} = 1\frac{1}{4}$

6) $x - 1\frac{1}{4} = -6$

7) $2\frac{1}{10}n = 1\frac{1}{6}$

8) $9\frac{1}{3} = \frac{5}{3}n$

9) $5\frac{2}{7} + k = 2\frac{27}{70}$

10) $2\frac{5}{12} = -3\frac{1}{4} + k$

11) $m - \frac{4}{9} = -2\frac{67}{90}$

12) $\frac{11}{6} = \frac{1}{3} + p$

13) $1\frac{13}{64} = \frac{11}{8}v$

14) $\frac{39}{5} = 2m$

15) $n - \frac{3}{4} = -2\frac{3}{4}$

16) $\frac{9}{10}n = -1\frac{1}{10}$

17) $-1\frac{1}{2} + v = -3\frac{3}{10}$

18) $n - \frac{4}{7} = 3$

19) $\frac{9k}{65} = 1\frac{316}{845}$

20) $-\frac{9}{19} = n - 11$

21) $\frac{1}{3} = n + \frac{4}{3}$

22) $-\frac{26}{33} = \frac{13}{11}x$

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Name_____

One-Step Equation Word Problems

Date_____ Period____

1) Lisa is cooking muffins. The recipe calls for 7 cups of sugar. She has already put in 2 cups. How many more cups does she need to put in?

2) At a restaurant, Mike and his three friends decided to divide the bill evenly. If each person paid $13 then what was the total bill?

3) How many packages of diapers can you buy with $40 if one package costs $8?

4) Last Friday Trevon had $29. Over the weekend he received some money for cleaning the attic. He now has $41. How much money did he receive?

5) Last week Julia ran 30 miles more than Pranav. Julia ran 47 miles. How many miles did Pranav run?

6) How many boxes of envelopes can you buy with $12 if one box costs $3?

7) Amanda and her best friend found some money buried in a field. They split the money evenly, each getting $24.28. How much money did they find?

8) Jenny wants to buy an MP3 player that costs $30.98. How much change does she receive if she gives the cashier $40?

9) Last Friday Adam had $22.33. Over the weekend he received some money for cleaning the attic. He now has $32. How much money did he receive?

10) After paying $5.12 for a salad, Norachai has $27.10. How much money did he have before buying the salad?

11) A recipe for cookies calls for $3\frac{1}{4}$ cups of sugar. Amy has already put in $3\frac{1}{9}$ cups. How many more cups does she need to put in?

12) Your mother gave you $13.32 with which to buy a present. This covered $\frac{3}{5}$ of the cost. How much did the present cost?

13) If the weight of a package is multiplied by $\frac{5}{7}$ the result is 40.5 pounds. Find the weight of the package.

14) A stray dog ate 12 of your muffins. That was $\frac{3}{10}$ of all of them! With how many did you start?

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Name_____

Order of Operations

Date_____ Period____

Evaluate each expression.

1) $(30 - 3) \div 3$

2) $(21 - 5) \div 8$

3) $1 + 7^2$

4) $5 \times 4 - 8$

5) $8 + 6 \times 9$

6) $3 + 17 \times 5$

7) $7 + 12 \times 11$

8) $15 + 40 \div 20$

9) $20 + 16 - 15$

10) $19 - 15 - 3$

11) $9 \times (3 + 3) \div 6$

12) $(9 + 18 - 3) \div 8$

13) $9 + 6 \div (8 - 2)$

14) $4(4 \div 2 + 4)$

15) $6 + (5 + 8) \times 4$

16) $6 \times 6 - (7 + 5)$

17) $(9 \times 2) \div (2 + 1)$

18) $2 - (4 + 3 - 6)$

19) $7 \times 7 - (8 - 2)$

20) $9 - 7 - 6 \div 6$

21) $(4 - 1 + 8 \div 8) \times 5$

22) $(10 \times 2) \div (1 + 1)$

23) $7 \times 9 - 7 - 3 \times 5$

24) $8 - 1 - (18 - 2) \div 8$