The Steward School

Entering ALL sections of Pre-Algebra
Summer Math Packet

This packet is designed for you to review all of your Intro to Pre-Algebra skills and make sure you are well prepared for the start of Pre-Algebra in the Middle School this fall. We anticipate this packet will take about 7 hours to complete.

Please SHOW ALL WORK neatly in the space provided or attached on a separate sheet of paper. This assignment is due on the first day of class in the fall.

*Please show all of your work as you were required to do during the entire school year.

Remember No Work-No Credit.

We are really looking forward to the upcoming school year and hope you are too!

Questions? Email either of us at the following:

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Summer Math 2019-2020

Entering All Sections of Pre-Algebra

Find each sum. NO CALCULATOR!
1) Go to http://tinyurl.com/mathinthemiddle
2) Click on Intro to Pre-Algebra.
3) Then click on Rational Numbers.
4) Then watch Adding Integers.

1) \(5 + (-5)\)
2) \((-3) + (-7)\)
3) \(4 + (-8)\)
4) \((-7) + 4\)
5) \(4 + (-3)\)
6) \(6 + (-8)\)

Find each difference. NO CALCULATOR!
1) Go to http://tinyurl.com/mathinthemiddle
2) Click on Intro to Pre-Algebra.
3) Then click on Rational Numbers.
4) Then watch Subtracting Integers.

7) \(2 - 2\)
8) \(5 - 4\)
9) \(7 - 3\)
10) \(3 - (-1)\)
11) \(2 - (-3)\)
12) \(5 - 5\)

Find each product. NO CALCULATOR!
1) Go to http://tinyurl.com/mathinthemiddle
2) Click on Intro to Pre-Algebra.
3) Then click on Rational Numbers.
4) Then watch Multiplying and Dividing Integers.

13) \((9)(-5)\)
14) \((-9)(8)\)
15) \((-8)(2)\)
16) \((-4)(-8)\)
17) \((-6)(8)\)
18) \((-5)(-6)\)
Find each quotient. NO CALCULATOR!
1) Go to http://tinyurl.com/mathinthemeiddle
2) Click on Intro to Pre-Algebra.
3) Then click on Rational Numbers.
4) Then watch Multiplying and Dividing Integers.

19) $81 ÷ 9$
20) $-54 ÷ -6$

21) $-36 ÷ 4$
22) $50 ÷ 10$

23) $-18 ÷ -3$
24) $-30 ÷ -6$

Find each sum. NO CALCULATOR!
1) Go to http://tinyurl.com/mathinthemeiddle
2) Click on Intro to Pre-Algebra.
3) Then click on Rational Numbers.
4) Then watch Adding and Subtracting Positive and Negative Unlike Fractions and Mixed Numbers.

25) $\frac{5}{8} + \left(-1\frac{5}{6}\right)$
26) $\left(-\frac{3}{5}\right) + 2\frac{5}{6}$

27) $(-1) + 4\frac{1}{5}$
28) $(-1) + \left(-3\frac{5}{7}\right)$

29) $2\frac{3}{5} + \left(-3\frac{7}{8}\right)$
30) $\left(-\frac{10}{7}\right) + \left(-2\frac{1}{4}\right)$

Find each difference. NO CALCULATOR!
1) Go to http://tinyurl.com/mathinthemeiddle
2) Click on Intro to Pre-Algebra.
3) Then click on Rational Numbers.
4) Then watch Adding and Subtracting Positive and Negative Unlike Fractions and Mixed Numbers.

31) $\frac{4}{7} - 4\frac{2}{7}$
32) $(-1) - 4\frac{7}{8}$

33) $\frac{1}{3} - 2\frac{1}{4}$
34) $\frac{15}{8} - \left(-2\frac{1}{4}\right)$

35) $\left(-1\frac{3}{8}\right) - \frac{1}{2}$
36) $7 - 2\frac{1}{3}$
Evaluate each expression. NO CALCULATOR!
1) Go to http://tinyurl.com/mathinthemiddle
2) Click on Intro to Pre-Algebra.
3) Then click on Rational Numbers.
4) Then watch Adding and Subtracting Positive and Negative Unlike Fractions and Mixed Numbers.

37) \( \frac{13}{8} - \left( -3 \frac{2}{5} \right) \)  
38) \( 6 + \left( -3 \frac{4}{7} \right) \)

39) \( \frac{11}{6} - \frac{5}{3} \)  
40) \( \left( -\frac{9}{8} \right) + \left( -\frac{15}{8} \right) \)

41) \( \left( -\frac{5}{4} \right) - \left( -1 \frac{3}{4} \right) \)  
42) \( \left( -\frac{2}{3} \right) + \frac{5}{6} \)

43) \( -1 \frac{7}{8} + 2 \frac{1}{8} \)  
44) \( -1 - \left( -\frac{3}{2} \right) \)

45) \( \frac{3}{8} + \left( -2 \frac{3}{4} \right) \)  
46) \( 4 + \left( -2 \frac{1}{7} \right) \)

Find each product. NO CALCULATOR!
1) Go to http://tinyurl.com/mathinthemiddle
2) Click on Intro to Pre-Algebra.
3) Then click on Rational Numbers.
4) Then watch Multiplying Fractions and Mixed Numbers (with Positive and Negatives).

47) \( 2 \left( -\frac{3}{2} \right) \)  
48) \( 4 \left( -\frac{2}{3} \right) \)

49) \( 7 \left( -\frac{5}{3} \right) \)  
50) \( -\frac{1}{2} \left( \frac{3}{4} \right) \)

51) \( 3 \frac{1}{4} \left( -\frac{1}{7} \right) \)  
52) \( 5 \frac{1}{10} \left( -5 \right) \)

53) \( -2 \left( \frac{10}{7} \right) \)  
54) \( 4 \frac{3}{5} \left( -\frac{2}{7} \right) \)

55) \( 1 \frac{7}{10} \left( -\frac{1}{6} \right) \)  
56) \( 5 \frac{1}{6} \left( -\frac{1}{2} \right) \)
Find each quotient. NO CALCULATOR!

1) Go to http://tinyurl.com/mathinthemiddle
2) Click on Intro to Pre-Algebra.
3) Then click on Rational Numbers.
4) Then watch Dividing Fractions and Mixed Numbers (positive and negative numbers).

57) \(\frac{2 \frac{2}{5}}{4} \div \frac{9}{10}\) 58) \(2 \frac{1}{10} \div -3 \frac{1}{6}\)

59) \(-2 \frac{4}{5} \div 4\) 60) \(3 \frac{4}{7} \div \frac{1}{2}\)

61) \(1 \frac{3}{4} \div 1 \frac{1}{4}\) 62) \(\frac{5}{7} \div \frac{3}{8}\)

Write each as an algebraic expression.

1) Go to http://tinyurl.com/mathinthemiddle
2) Click on Intro to Pre-Algebra.
3) Then click on Powers, Expressions, and Equations.
4) Then watch Writing Equations.

63) 3 squared 64) the sum of 11 and 9

65) 28 decreased by 16 66) n more than 3

Evaluate each using the values given.

1) Go to http://tinyurl.com/mathinthemiddle
2) Click on Intro to Pre-Algebra.
3) Then click on Powers, Expressions, and Equations.
4) Then watch Variables and Expressions.

67) \((x + x)(y + y + x)\); use \(x = -3\), and \(y = -2\) 68) \(y^2x \times x \div 2\); use \(x = -2\), and \(y = -3\)

69) \(q \div 6 + q^2 + p\); use \(p = -4\), and \(q = -6\) 70) \(x \div 2 + 6yx\); use \(x = 2\), and \(y = -1\)
Write each as a verbal expression.
1) Go to http://tinyurl.com/mathinthemiddle
2) Click on Intro to Pre-Algebra.
3) Then click on Powers, Expressions, and Equations.
4) Then watch Writing Equations.

71) $n - 3$  
72) $n^3$

73) $11 + n$  
74) $x - 8$

Solve each equation. NO CALCULATOR!
1) Go to http://tinyurl.com/mathinthemiddle
2) Click on Intro to Pre-Algebra.
3) Then click on Powers, Expressions, and Equations.
4) Then watch Solving Equations by Adding and Subtracting.

75) $-3 = k + 4$  
76) $-5 = b - 1$

77) $13 = x - 7$  
78) $20 + p = 37$

79) $n + 16 = 8$  
80) $4 + x = 14$

Solve each equation. NO CALCULATOR!
1) Go to http://tinyurl.com/mathinthemiddle
2) Click on Intro to Pre-Algebra.
3) Then click on Powers, Expressions, and Equations.
4) Then watch Solving Equations by Multiplying and Dividing.

81) $\frac{x}{14} = 12$  
82) $-324 = -18x$

83) $0 = 3n$  
84) $\frac{x}{13} = -\frac{18}{13}$

85) $\frac{n}{19} = -11$  
86) $-17 = \frac{n}{17}$

87) Nine workers are hired to seed a field by hand. Each is given a plot which is $11 \times 7$ feet in size. What is the total area of the field?

88) A stray dog ate $10$ of your muffins. That was $\frac{5}{6}$ of all of them! How many are left?
89) In sixteen years Aliyah will be 75 years old. How old is she now?

90) How old is Julio if he will be 16 years old in ten years?

91) A recipe for a cake calls for \(\frac{1}{10}\) cups of sugar. Anjali accidentally put in \(\frac{3}{4}\) cups. How many extra cups did she put in?

Solve each equation. NO CALCULATOR!
1) Go to http://tinyurl.com/mathinthemiddle
2) Click on Intro to Pre-Algebra.
3) Then click on Powers, Expressions, and Equations.
4) Then watch Solving 2-Step Equations.

92) \(5 = 7 + \frac{x}{5}\)

93) \(7 = 8 - p\)

94) \(5 = \frac{n}{5} + 8\)

95) \(57 = 8n - 7\)

96) \(8 = 7 + \frac{k}{10}\)

97) \(3 = 1 + \frac{a}{2}\)

98) Amanda was going to sell all of her stamp collection to buy a video game. After selling half of them she changed her mind. She then bought eleven more. How many did she start with if she now has 21?

99) Molly's Bikes rents bikes for $20 plus $5 per hour. Mei paid $40 to rent a bike. For how many hours did she rent the bike?

100) The sum of three consecutive even numbers is 30. What is the smallest of these numbers?

101) Kristin won 127 super bouncy balls playing basketball at the county fair. At school she gave four to every student in her math class. She only has 7 remaining. How many students are in her class?

102) Jimmy sold half of his comic books and then bought fifteen more. He now has 42. With how many did he begin?

103) Chelsea spent half of her weekly allowance buying pizza. To earn more money her parents let her wash the dog for $10. What is her weekly allowance if she ended with $15?
State if each pair of ratios forms a proportion. NO CALCULATOR!
1) Go to http://tinyurl.com/mathinthemiddle
2) Click on Intro to Pre-Algebra.
3) Then click on Rates, Ratios, and Proportions.
4) Then watch Proportions.

104) $\frac{3}{4}$ and $\frac{12}{16}$  
105) $\frac{4}{2}$ and $\frac{16}{10}$

106) $\frac{6}{20}$ and $\frac{2}{4}$  
107) $\frac{4}{6}$ and $\frac{2}{3}$

Solve each proportion. You may use a calculator but you must show your key strokes.
1) Go to http://tinyurl.com/mathinthemiddle
2) Click on Intro to Pre-Algebra.
3) Then click on Rates, Ratios, and Proportions.
4) Then watch Proportions.

108) $\frac{n}{7} = \frac{8}{10}$  
109) $\frac{4}{7} = \frac{5}{r}$

110) $\frac{3}{5} = \frac{m}{10}$  
111) $\frac{6}{n} = \frac{5}{8}$

Each pair of figures is similar. Find the missing side. You may use a calculator but you must show your key strokes.
1) Go to http://tinyurl.com/mathinthemiddle
2) Click on Intro to Pre-Algebra.
3) Then click on Geometry.
4) Then watch Similar Figures.

112)  

113)
Answer each question and round your answer to the nearest whole number. NO CALCULATOR!
1) Go to http://tinyurl.com/mathinthemiddle
2) Click on Intro to Pre-Algebra.
3) Then click on Geometry.
4) Then watch Similar Figures.

114) A 4 ft tall bird bath standing next to a lawn ornament casts a 6 ft shadow. If the lawn ornament casts a shadow that is 9 ft long, then how tall is it?

115) A 6 ft tall woman standing next to a lawn ornament casts a 4 ft shadow. If the lawn ornament casts a shadow that is 2 ft long, then how tall is it?

Solve each problem. You may use a calculator but you must show your key strokes.
1) Go to http://tinyurl.com/mathinthemiddle
2) Click on Intro to Pre-Algebra.
3) Then click on Rates, Ratios, and Proportions.
4) Then watch The Percent Equation.

116) What percent of 68 is 32.8?

117) 53% of what is 3?

118) 150 is 64% of what?

119) 180% of what is 57?

Find the selling price of each item. You may use a calculator but you must show your key strokes.
1) Go to http://tinyurl.com/mathinthemiddle
2) Click on Intro to Pre-Algebra.
3) Then click on Rates, Ratios, and Proportions.
4) Then watch Sales Tax.

120) Original price of a puppy: $374.99
     Discount: 50%

121) Original price of socks: $24.95
     Discount: 30%

122) Cost of a cell phone: $199.95
     Markup: 60%

123) Cost of a microphone: $39.99
     Markup: 70%

Write each as a decimal. Use repeating decimals when necessary. NO CALCULATOR!

124) \( \frac{3}{5} \)

125) \( 1 \frac{47}{100} \)

Write each as a percent. Use repeating decimals when necessary. NO CALCULATOR!

126) \( \frac{7}{10} \)

127) \( 6 \frac{7}{8} \)
Write each as a decimal. Round to the thousandths place. NO CALCULATOR!

128) 50%  

Write each as a fraction. NO CALCULATOR!

130) 87.5%  

132) 0.19  

134) 0.81  

131) 22.2%  

133) 0.25  

135) 0.43  

Draw a graph for each inequality. NO CALCULATOR!
1) Go to http://tinyurl.com/mathinthemiddle  
2) Click on Intro to Pre-Algebra.  
3) Then click on Inequalities.  
4) Then watch Graphing Inequalities.

136) \(6 \leq n\)  

137) \(2 > -b\)

Write an inequality for each graph.  
1) Go to http://tinyurl.com/mathinthemiddle  
2) Click on Intro to Pre-Algebra.  
3) Then click on Inequalities.  
4) Then watch Graphing Inequalities.

138)  

139)  

Write each as an algebraic expression.

140) \(x\) increased by 7 is less than or equal to 5  

141) \(x\) squared is less than or equal to 47  

142) the product of \(x\) and 9 is less than 24  

143) the quotient of \(z\) and 4 is less than or equal to 36
Solve each inequality and graph its solution. NO CALCULATOR!
1) Go to http://tinyurl.com/mathinthemiddle
2) Click on Intro to Pre-Algebra.
3) Then click on Inequalities.
4) Then watch Solving Inequalities by Adding and Subtracting.

144) \( n + 4 < -4 \)  

145) \( x - 6 < -11 \)

Solve each inequality and graph its solution. NO CALCULATOR!
1) Go to http://tinyurl.com/mathinthemiddle
2) Click on Intro to Pre-Algebra.
3) Then click on Inequalities.
4) Then watch Solving Inequalities by Multiplying and Dividing.

146) \( \frac{m}{3} > 5 \)  

147) \( 9n \leq 126 \)

Solve each inequality and graph its solution. NO CALCULATOR!

148) \( -6 - 6k < 12 \)  

149) \( 6x + 3 \geq 3 \)
Plot each point.
1) Go to http://tinyurl.com/mathinthemiddle
2) Click on Intro to Pre-Algebra.
3) Then click on Linear and Non-Linear Functions.
4) Then watch Ordered Pairs.

150) \( J(10, 6) \) \( K(-8, -6) \) \( L(8, 8) \)
\( M(1, -2) \) \( N(-2, -3) \)
State the coordinates of each point.
1) Go to http://tinyurl.com/mathinthemiddle
2) Click on Intro to Pre-Algebra.
3) Then click on Linear and Non-Linear Functions.
4) Then watch Ordered Pairs.

151)

Find the slope of each line.
1) Go to http://tinyurl.com/mathinthemiddle
2) Click on Intro to Pre-Algebra.
3) Then click on Linear and Non-Linear Functions.
4) Then watch Slope.

152)  153)
Answers to Entering All Sections of Pre-Algebra

1) 0
9) 4
17) -48
25) \(- \frac{5}{24}\)
33) \(- \frac{11}{12}\)
41) \(\frac{1}{2}\)
49) \(- \frac{11}{3}\)
57) \(\frac{5}{49}\)
65) 28 - 16
73) 11 increased by a number

3) -4
11) 5
19) 9
27) \(\frac{3}{5}\)
35) \(- \frac{7}{8}\)
43) \(\frac{1}{4}\)
51) \(- \frac{13}{28}\)
59) \(- \frac{7}{10}\)
67) 42
75) \{-7\}
81) \{168\}
89) 59
91) \(\frac{13}{20}\)
97) \{4\}
99) 4
103) $10
105) No
113) 45
119) 31.7
121) $17.47
127) 687.5%
131) \(\frac{111}{500}\)

5) 1
13) -45
21) -9
29) \(- \frac{11}{40}\)
37) \(\frac{1}{40}\)
45) \(- \frac{3}{8}\)
53) \(- \frac{6}{7}\)
61) \(\frac{2}{5}\)
69) 31
77) \{20\}
83) \{0\}
85) \{-209\}
91) \(\frac{13}{20}\)
93) \{1\}
95) \{8\}
97) \{4\}
99) 4
101) 30
107) Yes
109) \{8.75\}
115) 3 ft
117) 5.7
123) $67.98
125) 1.47
133) \(\frac{1}{4}\)
135) \(\frac{43}{100}\)
137)
139) \(r > -3\)

141) \(x^2 \leq 47\)
143) \(\frac{z}{4} \leq 36\)
147) \(n \leq 14\)
151) \(P(3, 5)\)

145) \(x < -5:\)
149) \(x \geq 0:\)

153) -3

15) -16
23) 6
31) \(- \frac{5}{7}\)
39) \(\frac{1}{6}\)
47) -3
55) \(- \frac{17}{60}\)
63) \(3^2\)

71) 3 less than n
79) \{-8\}
87) 693
95) \{8\}
103) $10
111) \{9.6\}
119) 31.7
127) 687.5%
131) \(\frac{111}{500}\)

139) \(r > -3\)