

## Summer Math 2019

### Students Entering 8<sup>th</sup> Grade

Dear 7<sup>th</sup> Grade Students and Families:

Although there are many areas where students need development and exposure, the math department has identified Fraction/Decimal Computation, Algebra & Patterns, Probability, Data & Statistics, Geometry & Measurement, Integer Operations, Ratios and Proportions, Multi-Step Equations & Inequalities and Substitution as the main target areas for students to work on. All students are expected to have a general understanding of these concepts to be successful in math next year. Students who enter the 8<sup>th</sup> grade without competency with these skills will have significant difficulty being successful in 8<sup>th</sup> grade math.

This packet consists of sixteen double-sided pages. 2 double-sided sheets need to be completed each week. You may use a calculator ONLY on the pages with a calculator symbol. This packet will be checked during the first week of school and they will be tested on this material during the first weeks of school in September. The Kahn Academy website (<https://www.khanacademy.org/math/cc-seventh-grade-math>) also has excellent resources for remediation, practice and extension.

I encourage you to keep math in the forefront of your thinking this summer. In your travels, look for patterns, bake a cake, or estimate the cost of groceries. Enjoy your summer, get some well-deserved rest, and think math! It's all around us!

Sincerely,



Suzanne Raskin



# Pre-Algebra – Summer Math Packet

## Answer Key

Check your answers after completing each section. Circle whichever statement applies to you.

Page 2

Answer	I got it on the 1 <sup>st</sup> try!	I got it with corrections.	I have no idea.
1. $5x > 25$			
2. $x + 6 \geq 15$			
3. $24 \div x < 7$			
4. $2x - 5 \leq 124$			
5. $x \geq 16$			
6. $19 + 14x \leq 65$			

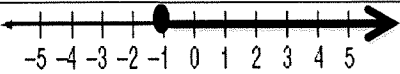
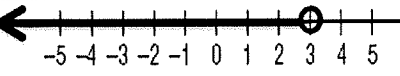
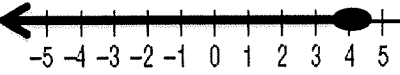
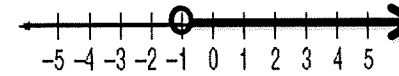
Page 3

Answer	I got it on the 1 <sup>st</sup> try!	I got it with corrections.	I have no idea.
1. $x = -3$			
2. $r = -8$			
3. $t = -4$			
4. $t = 2.25$			
5. 6 buckets			
6. 9 lbs			

Page 4

Answer	I got it on the 1 <sup>st</sup> try!	I got it with corrections.	I have no idea.
1. $y \leq 9$			
2. $y \geq 6$			
3. $y < 7$			
4. $x > -1$			
5. At least 1.5 hours <del>X</del> $\geq 1.5$			
6. At most 4 shirts			

Page 5

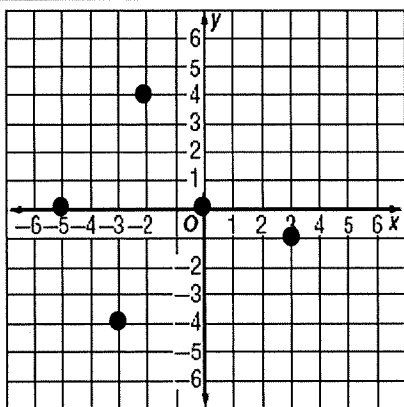
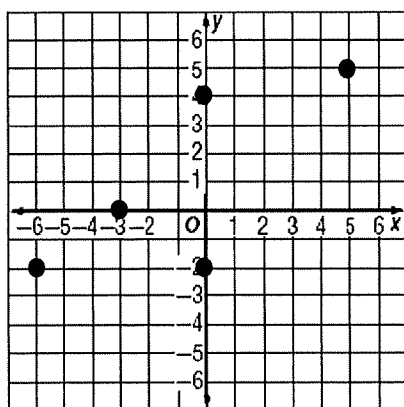
Answer	I got it on the 1 <sup>st</sup> try!	I got it with corrections.	I have no idea.
1. $x \geq -3$			
2. $x > 0$			
3. 			
4. 			
5. 			
6. 			

# Pre-Algebra – Summer Math Packet

Page 6

Answer	I got it on the 1 <sup>st</sup> try!	I got it with corrections.	I have no idea.
1. 36 cm <sup>2</sup>			
2. 42 ft <sup>2</sup>			
3. 175.5 cm <sup>2</sup>			
4. 420 in <sup>3</sup>			
5. 56 ft			
6. About 188.4 m			

Page 7

Answer	I got it on the 1 <sup>st</sup> try!	I got it with corrections.	I have no idea.
1. P (2,-3) IV; Q (-3, -2) III; R (1, 3) I; S (-2, 2) II			
2. A (-1, 1) II; J (3, -5) IV; B (5, 5) I; H (-1, -2) III			
3. 			
4. 			

Page 8

Answer	I got it on the 1 <sup>st</sup> try!	I got it with corrections.	I have no idea.
1. Supplementary			
2. Complementary			
3. Neither			
4. Neither			
5. 3 & 1			
6. 7 & 8			

# Pre-Algebra – Summer Math Packet

Page 9

Answer	I got it on the 1 <sup>st</sup> try!	I got it with corrections.	I have no idea.
1. $94^\circ$			
2. $131^\circ$			
3. $33^\circ$			
4. $117^\circ$			
5. Complementary, $42^\circ$			
6. $128^\circ$			

Page 10

Answer	I got it on the 1 <sup>st</sup> try!	I got it with corrections.	I have no idea.
1. $92^\circ$			
2. $111^\circ$			
3. $85^\circ$			
4. $77^\circ$			
5. $80^\circ$			
6. $116^\circ$			

Page 11

Answer	I got it on the 1 <sup>st</sup> try!	I got it with corrections.	I have no idea.
1a. <del>ML</del>			
1b. <u>HJ</u>			
1c. <u>KN</u>			
2a. $\angle M$			
2b. $\angle J$			
2c. $\angle L$			
2d. $\angle N$			
3a. 4 cm			
3b. 5 cm			
3c. $45^\circ$			
4. 40 units			

Page 12

Answer	I got it on the 1 <sup>st</sup> try!	I got it with corrections.	I have no idea.
1. $66 \text{ ft}^2$			
2. $4.6 \text{ cm}^2$			
3. $28 \text{ in}^2$			
4. $236 \text{ in}^2$			
5. $350 \text{ ft}^2$			
6. $85,000 \text{ ft}^2$			

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Page 13

Answer	I got it on the 1 <sup>st</sup> try!	I got it with corrections.	I have no idea.
1. 52.5 in <sup>2</sup>			
2. 175.5 cm <sup>2</sup>			
3. 39.2 cm <sup>2</sup>			
4. 150 mm <sup>2</sup>			
5. About 57,023 mi <sup>2</sup>			
6. 172.5 ft <sup>2</sup>			

Page 14

Answer	I got it on the 1 <sup>st</sup> try!	I got it with corrections.	I have no idea.
1. 127 mi			
2. 3.5 in			
3. 16 in			
4. 150 m			
5. 77.1 cm			
6. 63.375 ft			

Page 15

Answer	I got it on the 1 <sup>st</sup> try!	I got it with corrections.	I have no idea.
1. Scale doesn't include 0.			
2. Interval is too big.			
3. See example.			
4. Make the range on the y-axis between 0 & 50.			
5. Doesn't include 0 & range is too high			
6. Change the range of the cans collected to 0 through 1500.			

Page 16

Answer	I got it on the 1 <sup>st</sup> try!	I got it with corrections.	I have no idea.
1. Pie Chart			
2. Line Graph			
3. Bar Graph			
4. Back to Back Stem and Leaf Plot			
5. Line Graph			
6. Bar Graph			

# Pre-Algebra – Summer Math Packet

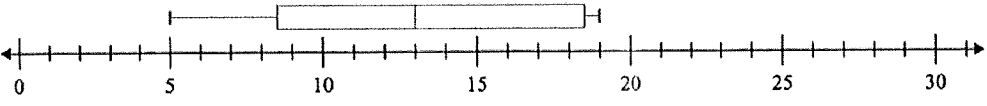
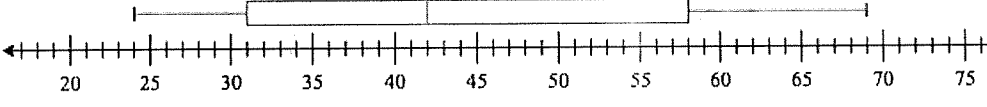
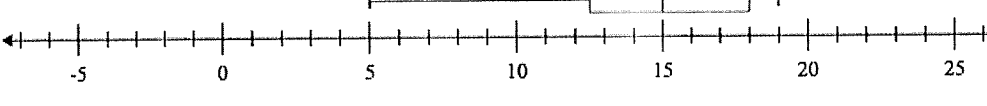
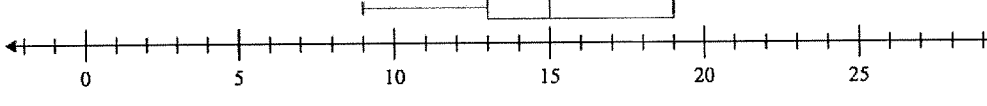
Page 17

Answer	I got it on the 1 <sup>st</sup> try!	I got it with corrections.	I have no idea.
1. Mean: 2,599; Median: 3,190; Mode: None			
2. The mean is misleading because this is less than a majority of the data.			
3. The median. It is in the middle of the data.			
4. Mean: 17.5; Median: 16.5; Mode: 23			
5. The mode is misleading because it is above a majority of the data. The mean and median are both good representations as they are both in the center of the data.			
6. Melissa			

★ See next page for answers to pages 17b and 17c.

Page 18

Answer	I got it on the 1 <sup>st</sup> try!	I got it with corrections.	I have no idea.
1. 6			
2. <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">             Red <math>\begin{cases} 180 \\ 125 \end{cases}</math> </div> <div style="text-align: center;">             Silver <math>\begin{cases} 180 \\ 125 \end{cases}</math> </div> <div style="text-align: center;">             Purple <math>\begin{cases} 180 \\ 125 \end{cases}</math> </div> </div>			
3. <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">             Yellow <math>\begin{cases} \text{Jeans} \\ \text{Khakis} \\ \text{White} \end{cases}</math> </div> <div style="text-align: center;">             Purple <math>\begin{cases} \text{Jeans} \\ \text{Khakis} \\ \text{White} \end{cases}</math> </div> </div> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 20px;"> <div style="text-align: center;">             Blue <math>\begin{cases} \text{Jeans} \\ \text{Khakis} \\ \text{White} \end{cases}</math> </div> <div style="text-align: center;">             Green <math>\begin{cases} \text{Jeans} \\ \text{Khakis} \\ \text{White} \end{cases}</math> </div> </div>			
4. 24			
5. <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">             Regular <math>\begin{cases} \text{Full-Service} \\ \text{Self-Service} \end{cases}</math> </div> <div style="text-align: center;">             Midgrade <math>\begin{cases} \text{Full Service} \\ \text{Self Service} \end{cases}</math> </div> <div style="text-align: center;">             Premium <math>\begin{cases} \text{Full Service} \\ \text{Self Service} \end{cases}</math> </div> </div>			
6. 6			

Answer	I got it on the first try!	I got it with corrections	I have no idea
<p>1.</p> <p>19, 13, 12, 19, 9, 5, 13, 18, 8 Min=5 Max=19 q1=8.5 Q2=13 q3=18.5</p> 			
<p>2.</p> <p>69, 32, 49, 24, 58, 29, 54, 66, 35, 31 Min=24 Max=69 q1=31 Q2=42 q3=58</p> 			
<p>3.</p> <p>16, 18, 13, 15, 19, 12, 15, 18, 5 Min=5 Max=19 q1=12.5 Q2=15 q3=18</p> 			
<p>4.</p> <p>9, 13, 19, 16, 14, 19 Min=9 Max=19 q1=13 Q2=15 q3=19</p> 			

Answer	I got it on the first try!	I got it with corrections.	I have no idea.
1. 3.75			
2. $15\frac{1}{3}$			
3. 14%			
4. 127.2			



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Page 19

Answer	I got it on the 1 <sup>st</sup> try!	I got it with corrections.	I have no idea.
1. $\frac{1}{6}$			
2. $\frac{5}{12}$			
3. $\frac{1}{10}$			
4. $\frac{3}{16}$			
5. $\frac{1}{8}$			
6. $\frac{1}{24}$			

Page 20

Answer	I got it on the 1 <sup>st</sup> try!	I got it with corrections.	I have no idea.
1. $\frac{11}{20}$			
2. 220			
3. $\frac{1}{5}$			
4. 60			
5. 150			
6. 30			

Page 21

Answer	I got it on the 1 <sup>st</sup> try!	I got it with corrections.	I have no idea.
1. $\frac{1}{10}$ , 0.1, 10%			
2. $\frac{3}{10}$ , 0.3, 30%			
3. $\frac{41}{50}$ , 0.82, 82%			
4. $\frac{1}{2}$ , 0.5, 50% $\frac{1}{2}$ , 0.5, 50%			
5. $\frac{3}{10}$ , 0.3, 30%			
6. $\frac{8}{25}$ , 0.32, 32%			

Page 22

Answer	I got it on the 1 <sup>st</sup> try!	I got it with corrections.	I have no idea.
1. 0.735			
2. 0.6			
3. 4.625			
4. $\frac{47}{50}$			
5. $\frac{12}{25}$			
6. $\frac{1}{3}$ , $0.\overline{3}$			

# Pre-Algebra – Summer Math Packet

Page 23

Answer	I got it on the 1 <sup>st</sup> try!	I got it with corrections.	I have no idea.
1. 0.28, 28%			
2. 0.19, $\frac{19}{100}$			
3. 0.18, 18%			
4. 0.75, $\frac{3}{4}$			
5. $\frac{1}{2}$ , 0.5, 50%			
6. $\frac{1}{4}$ , 0.25			

Page 24

Answer	I got it on the 1 <sup>st</sup> try!	I got it with corrections.	I have no idea.
1. $\frac{1}{5}$ , 22%, 0.3			
2. 70%, 0.74, $\frac{3}{4}$			
3. >			
4. $1\frac{4}{9}$			
5. Large			
6. 0.6, $\frac{7}{10}$ , 72%			

Page 25

Answer	I got it on the 1 <sup>st</sup> try!	I got it with corrections.	I have no idea.
1. -5			
2. -21			
3. 5			
4. -4			
5. 85°			
6. 8 ft			

Page 26

Answer	I got it on the 1 <sup>st</sup> try!	I got it with corrections.	I have no idea.
1. 98			
2. -14			
3. 45			
4. 12			
5. -12			
6. 11 min.			

# Pre-Algebra – Summer Math Packet

Page 27

Answer	I got it on the 1 <sup>st</sup> try!	I got it with corrections.	I have no idea.
1. $\frac{4}{9}$			
2. $17\frac{2}{3}$			
3. $5\frac{13}{18}$			
4. $5\frac{1}{6}$			
5. $4\frac{1}{12}$ cups			
6. $4\frac{3}{8}$ yds			

Page 28

Answer	I got it on the 1 <sup>st</sup> try!	I got it with corrections.	I have no idea.
1. $\frac{4}{5}$			
2. $\frac{1}{2}$			
3. $5\frac{1}{10}$			
4. $\frac{11}{24}$			
5. $3\frac{5}{12}$ lbs			
6. $2\frac{7}{12}$ lbs			

Page 29

Answer	I got it on the 1 <sup>st</sup> try!	I got it with corrections.	I have no idea.
1. $\frac{8}{15}$			
2. $10\frac{1}{2}$			
3. $5\frac{5}{6}$			
4. $15\frac{2}{3}$			
5. $20\frac{1}{2}$ yds			
6. $\frac{5}{12}$			

Page 30

Answer	I got it on the 1 <sup>st</sup> try!	I got it with corrections.	I have no idea.
1. 60% decrease			
2. \$23.40			
3. <del>19</del> % increase			
4. \$126.65			
5. 44.4%			
6. 29%			

## Pre-Algebra – Summer Math Packet

Page 31

Answer	I got it on the 1 <sup>st</sup> try!	I got it with corrections.	I have no idea.
1. \$90.10			
2. \$10.57			
3. \$163.80			
4. \$21,316.10			
5. \$ <del>20,960</del>			
6. \$4,013.45			