

# THE SEVEN HILLS SCHOOL

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## Summer Math Packet for Rising 8th Grade Students entering Algebra 1A 8

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### **Directions:**

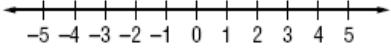
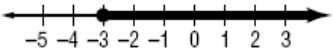
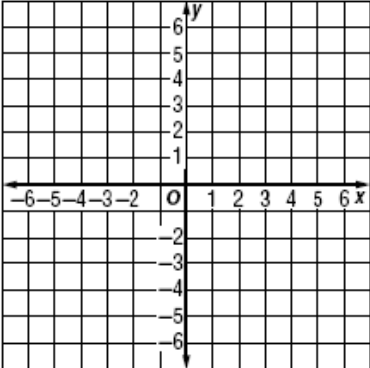
- Study “math facts”...addition, subtraction, multiplication, and division of whole numbers 0-12.
- PRINT THIS PACKET and complete all work in the packet.
- Show your work. Complete this math packet *without* the use of a calculator unless otherwise indicated.
- Turn this packet in during the first week of school.
- Enjoy your summer! We are looking forward to seeing you at the start of the new year.

## Week 1

Simplify the following:

<p>1. Evaluate: <math>-5 + (-9)</math></p>	<p>2. Evaluate: <math>11 - (-13)</math></p>	<p>3) Evaluate: <math>-17 - 18</math></p>
<p>4. Evaluate: <math>\frac{1}{3} - (-\frac{4}{3})</math></p>	<p>5. Evaluate: <math>[(-8) + (-6) + 14]</math></p>	<p>6. Evaluate: <math>-1\frac{1}{2} + 2\frac{1}{2}</math></p>
<p>7. Find the sum &amp; simplify: <math>\frac{3}{5} + \frac{2}{5}</math></p>	<p>8. Find the sum: <math>\frac{5}{6} + \frac{2}{9}</math></p>	<p>9. Find the difference &amp; simplify: <math>\frac{8}{9} - \frac{5}{9}</math></p>
<p>10. Find the sum: <math>5.23 + 1.6</math></p>	<p>11. Find the difference: <math>8.09 - 2.11</math></p>	<p>12. Evaluate: <math>-5.6 - (-4.3)</math></p>
<p>13. Find the product: <math>\frac{15}{4} * \frac{8}{25}</math></p>	<p>14. Find the product: <math>36 * \frac{4}{9}</math></p>	<p>15. Find the product: <math>2\frac{2}{3} * 1\frac{3}{5}</math></p>

## Week 2

<p>1. <b>Evaluate</b> if <math>e = -4</math> and <math>f = 8</math>.</p> <p style="text-align: center;"><math>2e - f</math></p>	<p>2. A computer stock decreased 2 points each hour for 6 hours. Determine the total change in the stock value over the 6 hours</p>	<p>3. Write <math>\frac{3}{5}</math> as a decimal</p>
<p>4. Celia had <math>4\frac{2}{3}</math> pounds of chopped pecans. She used <math>1\frac{1}{4}</math> pounds in a recipe. How many pounds of chopped pecans does she have left?</p>	<p>5. Write .94 as a fraction in simplest form.</p>	<p>6. <b>Evaluate:</b></p> <p style="text-align: center;"><math>-4\frac{3}{8} + 6\frac{1}{2}</math></p>
<p>7. Becca is making a rectangular garden in the back yard. What is the perimeter of the garden if it's dimensions are 12.5 ft by 8.3 ft?</p>	<p>8. Evaluate if <math>a = -3</math> and <math>c = 5</math></p> <p style="text-align: center;"><math>-3ac</math></p>	<p>9. Emmie has <math>3\frac{1}{3}</math> pounds of butter. She uses <math>\frac{3}{4}</math> pound in a recipe. How much butter does she have left?</p>
<p>10. Graph the inequality.</p> <p style="text-align: center;"><math>z &lt; 3</math></p> 	<p>11. Find the absolute value:</p> <p style="text-align: center;"><math> - \frac{4}{5} </math></p>	<p>12. Write an inequality for the graph.</p> 
<p>13. Leah wants to make 4 sets of curtains. Each set requires <math>5\frac{1}{8}</math> yards of fabric. How much fabric does she need?</p>	<p>14. Graph and label each point on the coordinate plane.</p> <p>N (3, -1)  P (-2, 4)  Q (-3, -4)  R (0, 0)  S (-5, 0)</p>	

## Week 3

<p>1. A quiche recipe calls for <math>2\frac{3}{4}</math> cups of grated cheese. A recipe for quesadillas requires <math>1\frac{1}{3}</math> cups of grated cheese. What is the total amount of cheese needed?</p>	<p>2. Write <math>\frac{7}{25}</math> as a percent and decimal.</p>	<p>3. Write 19% as a decimal and a fraction in simplest form.</p>
<p>4. Write the word statement in symbols: <i>Ten is greater than six plus one</i></p>	<p>5. If <math>x = 6</math>, find the value of: <math display="block">\frac{4x - 1}{3x}</math></p>	<p>6. Simplify: <math>4(-8) + 9 \div 3</math></p>
<p>7. Evaluate for <math>x = 6</math>, <math>y = -4</math>, and <math>a = 3</math>. <math>6x - 5y + 4a</math></p>	<p>8. Find the average: <math>-17, 34, 9, -2</math></p>	<p>9. Solve for <math>x</math>: <math>X + 7 = 11</math></p>
<p>10. Solve the equation: <math>X + 22 = 16</math></p>	<p>11. Solve the equation: <math>8 + k = -4</math></p>	<p>12. Decide whether the proportion is true or false: <math display="block">\frac{4}{12} = \frac{7}{21}</math></p>
<p>13. Solve the proportion: <math display="block">\frac{20}{100} = \frac{x}{80}</math></p>	<p>14. If 8 candy bars sell for \$10.00, how much do 12 candy bars cost?</p>	<p>15. 8 is what percent of 64? (may use a calculator)</p>

## Week 4

<p>1. A coin is tossed, and a number cube is rolled. What is the probability of tossing heads, and rolling a 3 or a 5?</p>	<p>2. On a 75-point Algebra test, Marissa scores 63 points. What was her percent grade for the test? (may use calc.)</p>	<p>3. Simplify: <math>5 - (-4) + (-2)</math></p>
<p>4. Simplify: <math>10\frac{5}{8} - 3\frac{1}{10}</math></p>	<p>5. True or False? <math>\frac{4(3 - 9)}{2 - 6} \geq 6</math></p>	<p>6. Simplify: <math>\frac{3}{4} \div \frac{1}{8}</math></p>
<p>7. A red and a blue number cube are rolled. Determine the probability that an odd number is rolled on the red cube and a number greater than 1 is rolled on the blue cube.</p>	<p>8. There were 6 girls and 18 boys in Mrs. Johnson's math class. Write a ratio of the # of girls to the # of boys in fraction form. Then write the fraction as a repeating decimal.</p>	<p>9. Ms. Stettler surveyed her class and found that 15 out of 30 students brushed their teeth more than twice a day. Write this ratio as a fraction in simplest form, then write it as a % and a decimal.</p>
<p>10. A local retail store was having a sale and offered all their merchandise as a 25% discount. Write this percent as a fraction in simplest form, then write it as a decimal.</p>	<p>11. The golf team scored the following compared to par on the course. Average their scores. Write as a simplified fraction. -4, +6, -2, 0, +1, +3</p>	<p>12. Replace <math>\bigcirc</math> with <math>&lt;</math>, <math>&gt;</math>, or <math>=</math>. <math>\frac{7}{12} \bigcirc 58\%</math>  (may use calculator)</p>
<p>13. According to the Pet Food Manufacturer's Association, 11 out of 25 people own large dogs and 13 out of 50 medium dogs. Do more fraction of people own large or medium dogs?</p>	<p>14. Your PE teacher asked you to run for a specific time period. You ran 0.6 of the time. Two of your friends ran <math>\frac{7}{10}</math> of the time and 72% of the time. Order the amount of time you and your friends ran from least to greatest.</p>	<p>15. Which is the largest? <math>1\frac{3}{8}</math>   <math>1\frac{3}{10}</math>   <math>1\frac{4}{9}</math></p>

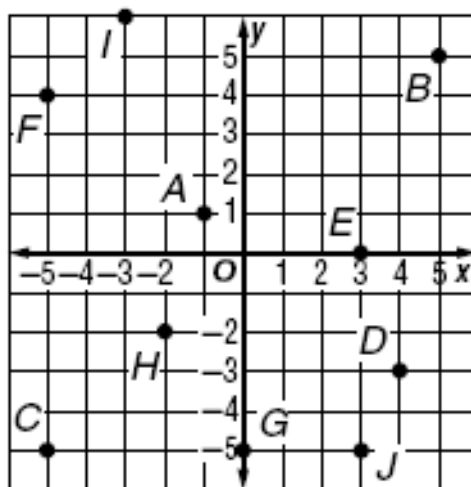
## Week 5

1. Jose wants to build a model of a 180-meter tall building. He will be using a scale of 1.5 centimeters = 3.5 meters. How tall will the model be? Round your answer to the nearest tenth. May use a calculator.



2. I enjoy playing Triominoes. On five successive turns, my scores were -13, 15, -12, 24, and 14. What was my total score for the five turns?
3. Use the circumference equation,  $C = 2\pi r$  to find the radius of a circle with a circumference of 16.328 cm. (Use 3.14 for  $\pi$ ) May use a calculator.
4. In Ohio, you can get your license when you turn 16. Write an inequality to show the age of all drivers in Ohio.
5. Find each of the points below on the coordinate plane. Then identify the quadrant or axis in which each point lies.

Point   Coordinates   Quadrant



## Week 6

Remember no Calculator! Show your work!

Find each product:

1.  $785 \times 60$

2.  $5,764 \times 500$

3.  $675 \times 574$

4.  $8,236 \times 58$

Find each quotient; round to the nearest whole number:

1.  $68,834 \div 7$

2.  $4,562 \div 34$

Write each problem in expanded form.

1.  $7^5$

2.  $2^6$

3.  $3^5$

Evaluate each expression:

1.  $(24 - 6) \times 2$

2.  $24 \div 6 \times 2$

3.  $24 \div (6 \times 2)$

4.  $24 \times 6 - 2$

5.  $24 - 6 \times 2$

6.  $24 - 6 + 2$

Solve each problem:

1. Sarah collects money from her newspaper route three days a week. Each day she collects from 21 families. How many families does she collect from each week?
2. If Sarah collects \$5 a week from each family, how much does she collect in one week?

## Week 7

Compare. Use  $<$ ,  $>$ , or  $=$  for each  $\bigcirc$ .

1.  $7.7962 \bigcirc 7.7912$

2.  $0.0655 \bigcirc 0.0648$

2.  $563.0999 \bigcirc 563.09999$

4.  $0.00013 \bigcirc 0.01013$

Solve each problem without a calculator. Show your work:

1.  $3.27 + 6.75 =$

2.  $19.5 + 56.01 =$

3.  $248.3 - 105.9 =$

4.  $77.86 - 24.35 =$

5.  $11.4 \times 12.9 =$

6.  $52.36 \div 6.8 =$

Solve each problem:

1. Carolyn spent \$19.25 on posters at the music store. Each poster cost \$2.75. How many posters did she buy?

2. Paul is a cross country runner. If he runs an average of 36 miles per week, about how many miles does he run each day?



## Week 8

Express each fraction as a decimal. (no calculator)

1.  $\frac{6}{25}$

2.  $\frac{9}{20}$

3.  $\frac{8}{250}$

4.  $\frac{13}{50}$

Write  $<$ ,  $>$ , or  $=$  for each  $\bigcirc$ .

1.  $\frac{7}{10} \bigcirc \frac{4}{5}$

2.  $\frac{2}{10} \bigcirc \frac{1}{6}$

3.  $\frac{7}{9} \bigcirc \frac{3}{5}$

Express each fraction in simplest form:

1.  $\frac{25}{45}$

2.  $\frac{15}{35}$

3.  $\frac{81}{90}$

4.  $\frac{64}{80}$

Express each decimal as a percent.

1. 0.39

2. 0.75

3. 0.875

4. 0.1

Find each quotient:

1.  $\frac{1}{3} \div \frac{1}{6}$

2.  $\frac{3}{4} \div \frac{1}{2}$

3.  $\frac{5}{8} \div \frac{1}{16}$

Find each sum or difference. Reduce.

1.  $\frac{2}{7} + \frac{3}{8}$

2.  $\frac{1}{6} + \frac{3}{5}$

3.  $\frac{5}{16} - \frac{2}{9}$

4.  $\frac{1}{6} + \frac{2}{3}$

## Answer Key

Week 1

Answer	I got it on the 1 <sup>st</sup> try!	I got it with corrections.	I still have no idea
1. -14			
2. 24			
3. -35			
4. 5/3			
5. 0			
6. 1			
7. 1			
8. 19/18 or 1 1/18			
9. 1/3			
10. 6.83			
11. 5.98			
12. -1.3			
13. 6/5			
14. 16			
15. 64/15			

Week 2

Answer	I got it on the 1 <sup>st</sup> try!	I got it with corrections.	I still have no idea
1. -16			
2. -12			
3. 0.6			
4. 3 5/12			
5. 47/50			
6. 2 1/8			
7. 41.6 ft			
8. 45			
9. 2 7/12			
10. $\leftarrow = 0$			
11. 4/5			
12. $x \geq -3$			
13. 20.5 yards			
14.			
15.			

Week3

Answer	I got it on the 1 <sup>st</sup> try!	I got it with corrections.	I still have no idea
1. $4\frac{1}{12}$			
2. 0.28, 28%			
3. 19/100, 0.19			
4. $10 > 6 + 1$			
5. 23/18			
6. -29			
7. 68			
8. 6			
9. $x = 4$			
10. $x = -6$			
11. $k = -12$			
12. $84 = 84$ True			
13. $x = 16$			
14. $x = \$15$			
15. $x = 12.5\%$			

Week4

Answer	I got it on the 1 <sup>st</sup> try!	I got it with corrections.	I still have no idea
1. $\frac{1}{6}$			
2. 84%			
3. 7			
4. $7\frac{21}{40}$			
5. True			
6. 6			
7. $\frac{5}{12}$			
8. $\frac{1}{3}$ and 0.333...			
9. $\frac{1}{2}$ , 50%, 0.5			
10. $\frac{1}{4}$ , 0.25			
11. 2/3 or 0.667			
12. >			
13. $11/25 > 13/50$ large			
14. $0.6 < 7/10 < 72\%$			
15. $1\frac{4}{9}$			

Week5

Answer	I got it on the 1 <sup>st</sup> try!	I got it with corrections.	I still have no idea
1. 77.1 cm			
2. 28			
3. 2.6 cm			
4. $x \geq 16$			
5.			
I (-3, 6) II			
F (-5, 4) II			
A (-1, 1) II			
C (-5,5) III			
H (-2, -2) III			
B (5,5) I			
E (3,0) x-axis			
D (4, -3) IV			
G (0, -5) y-axis			
J (3, -5) IV			

Week6

Answer	I got it on the 1 <sup>st</sup> try!	I got it with corrections.	I still have no idea
1. 47,100			
2. 2,882,000			
3. 387,450			
4. 477,688			
5. 9,833			
6. 134			
7. $7*7*7*7*7$			
8. $2*2*2*2*2*2$			
9. $3*3*3*3*3$			
10. 36			
11. 8			
12. 2			
13. 142			
14. 12			
15. 20			
16. 63			
17. \$315			

Week7

Answer	I got it on the 1 <sup>st</sup> try!	I got it with corrections.	I still have no idea
1. >			
2. >			
3. <			
4. <			
5. 10.02			
6. 75.51			
7. 142.4			
8. 53.51			
9. 147.06			
10. 80.6652			
11. 7.7			
12. 7			
13. 5 miles			

Week8

Answer	I got it on the 1 <sup>st</sup> try!	I got it with corrections.	I still have no idea
1. .24			
2. 0.45			
3. 0.032			
4. 0.26			
1. <			
2. >			
3. >			
1. $\frac{5}{9}$			
2. $\frac{3}{7}$			
3. $\frac{9}{10}$			
4. $\frac{4}{5}$			
1. 39%			
2. 75%			
3. 87.5%			
4. 10%			
1. 2			
2. 3/2			
3. 10			
1. 37/56			
2. 23/30			
3. 13/144			
4. 5/6			

