THE SEVEN HILLS SCHOOL

Summer Math Packet
for
Rising 7th Grade Students
entering
Algebra I 7

Directions:

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

Revised August 2018

WEEK 1

1. Solve: -8 + 13	2. Solve: 11 + (-19)	3. Solve: -19 - 8
4. Solve: -77 + (-46)	5. Solve: 12 - 34	6. Solve: 41 + (-56)
7. Solve: 50 - 82	8. Solve: -47 - 13	9. Solve: -80 + 102
10. Solve: 5(18)	11. Solve: $60 \div 12$	12. Solve: -12(15)
13. The temperature outside was -4° F in the morning and 13° F in the afternoon. By how much did the temperature increase?	14. A dolphin swimming 24 feet below the ocean's surface dives 18 feet straight down. How many feet below the ocean's surface is the dolphin now?	15. Chris earns $11 per hour. He works 14 hours a week. His employer withholds $32 from each paycheck for taxes. If he is paid weekly, what is the amount of his paycheck?

WEEK 2

1. Replace each ⊡ with <, >, or = to make a true statement. $-\frac{5}{8} \boxdot \frac{3}{8}$	2. Replace each ⊡ with <, >, or = to make a true statement. $\frac{4}{5} \boxdot 0.71$	3. Replace each ⊡ with <, >, or = to make a true statement. $\frac{5}{6} \boxdot 0.875$
4. Replace each ⊡ with <, >, or = to make a true statement. $1.2 \boxdot 1\frac{2}{9}$	5. Replace each ⊡ with <, >, or = to make a true statement. $\frac{8}{15} \boxdot 0.5\overline{3}$	6. Replace each ⊡ with <, >, or = to make a true statement. $-\frac{7}{11} \boxdot -\frac{2}{3}$
7. Order the set of rational numbers from least to greatest. $3.8,\ 3.06,\ 3\frac{1}{6},\ 3\frac{3}{4}$	8. Order the set of rational numbers from least to greatest. $0.11,\ -\frac{1}{9},\ -0.5,\ \frac{1}{10}$	9. Order the set of rational numbers from least to greatest. $-4\frac{3}{5},\ -3\frac{2}{5},\ -4.65,\ -4.09$
10. Solve. Write answer in simplest form. $-\frac{1}{6} - \frac{2}{3}$	11. Solve. Write answer in simplest form. $\frac{1}{2} - \frac{4}{5}$	12. Solve. Write answer in simplest form. $-\frac{2}{5} + \frac{17}{20}$
13. Solve: -1.6 + (-3.8)	14. Solve: 72.5 - (-81.3)	15. Solve: -38.9 + 24.2

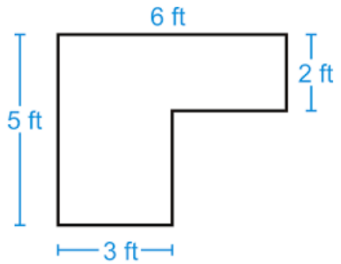
WEEK 3

1. Solve: 6.5 (0.13)	2. Solve: -5.8(2.3)	3. Solve: -14.1(-2.9)
4. Solve: $42.3 \div (-6)$	5. Solve: $108 \div (-0.9)$	6. Solve: $-78 \div (-1.3)$
7. Solve. Write answer in simplest form. $-\frac{1}{3} \cdot \frac{2}{5}$	8. Solve. Write answer in simplest form. $2\frac{1}{2} \cdot \left(-\frac{1}{4}\right)$	9. Solve. Write answer in simplest form. $3\frac{1}{2} \cdot 1\frac{1}{2}$
10. Solve. Write answer in simplest form. $\frac{16}{9} \div \frac{4}{9}$	11. Solve. Write answer in simplest form. $-1\frac{1}{3} \div \frac{2}{3}$	12. Solve. Write answer in simplest form. $4 \div \left(-\frac{2}{7}\right)$
13. A large pizza at Pizza Place has 12 slices. If Sue ate $\frac{1}{4}$ of the pizza, how many slices of pizza did she eat?	14. Bob practices the flute for $4\frac{1}{2}$ hours each week. How many hours does he practice in a month? (Assume there are 4 weeks in a month.)	15. How many band uniforms can be made with $131\frac{3}{4}$ yards of fabric if each uniform requires $3\frac{7}{8}$ yards?

** WEEK 4 ** A calculator may be used on this page.

1. Express as a fraction or mixed number in simplest form. 5%	2. Express as a fraction or mixed number in simplest form. 120%	3. Express as a fraction or mixed number in simplest form. 0.4%
4. 25 is what percent of 125?	5. 14 is 20% of what number?	6. What number is 25% of 18?
7. 5% of what number is 3.5?	8. Find 0.5% of 250.	9. 15 is what percent of 12?
10. Madeline usually makes 85% of her shots in basketball. If she attempts 20, how many will she likely make?	11. Brian answers 36 items correctly on a 40-item test. What percent did he answer correctly?	12. In a pet store, 15% of the animals are hamsters. If the store has 40 animals, how many of them are hamsters?

WEEK 5

1. Find the perimeter of a square with a side length of 5 m.	2. Find the perimeter of a rectangle with a length of 8 km and a width of 11 km.	3. Find the perimeter of a parallelogram with side lengths of 18 in. and 27 in.
4. Find the perimeter of a triangle with the following side lengths: 9 mm, 12 mm, 15 mm.	5. Find the perimeter of a parallelogram with side lengths of $6\frac{1}{4}$ inches and 5 inches.	6. Find the perimeter. 
7. Find the circumference of a circle with a radius of 3 cm. Use 3.14 for π. Round to the nearest tenth.	8. Find the circumference of a circle with a diameter of 10 in. Use 3.14 for π. Round to the nearest tenth.	9. A square garden has a side length of 5.8 meters. What is the perimeter of the garden?
10. A rectangular room is $12\frac{1}{2}$ feet wide and 14 feet long. What is the perimeter of the room?	11. The tire for a 10-speed bicycle has a diameter of 27 inches. Find the distance traveled in 10 rotations of the tire. Use 3.14 for π. Round to the nearest tenth.	12. Earth's circumference is approximately 25,000 miles. If you could dig a tunnel to the center of the Earth, how long would the tunnel be? Use 3.14 for π. Round to the nearest tenth mile.

** WEEK 6 ** A calculator may be used on this page. Use 3.14 for π.

1. Find the area of a rectangle with sides lengths 3 cm and 2 cm.	2. Find the area of a square with a side length of 6 in.	3. Find the area of a parallelogram with a side length of 8 m and a perpendicular height of 15 m.
4. Find the area of a triangle with a base of 12 mm and a height of 11 mm.	5. Find the area of a quarter-circle with a diameter of 4 meters. Round to the nearest hundredth.	6. Find the area of a semi-circle with a radius of 3 inches. Round to the nearest tenth.
7. The square floor of a tent has an area of 49 square feet. What is the side length of the tent?	8. The sound emitted from the siren of a tornado warning system can be heard for a 2.5-mile radius. Find the area of the region that hears the siren. Round to the nearest tenth square mile.	9. Find the volume of a rectangular prism with the following dimensions: l = 5 cm, w = 3 cm, h = 2 cm.
10. Find the volume of a rectangular prism with the following dimensions: l = 7.8 mm, w = 0.6 mm, h = 8 mm.	11. A cube measures 3 meters on a side. What is its volume?	12. A rectangular pan has a volume of 234 cubic inches. If the length of the pan is 9 inches and the width is 13 inches, what is the height of the pan?

** WEEK 7 ** A calculator may be used on this page.

1. Find the mean for the following set of data:
{1, 2, 3, 5, 5, 6, 13}

2. Find the median for the following set of data:
{1, 2, 3, 5, 5, 6, 13}

3. Find the mode for the following set of data:
{1, 2, 3, 5, 5, 6, 13}

4. Find the mean for the following set of data:
{52, 53, 53, 53, 55, 55, 57}

5. Find the median for the following set of data:
{52, 53, 53, 53, 55, 55, 57}

6. Find the mode for the following set of data:
{52, 53, 53, 53, 55, 55, 57}

7. Find the range for the following set of data:
{17, 9, 10, 17, 18, 5, 2}

8. The table shows the cost of some school supplies. Find the mean of the costs.

Supply	Cost
pencils	$0.50
pens	$2.00
paper	$2.00
pocket folder	$1.25
calculator	$5.25
notebook	$3.00
eraser	$2.50
markers	$3.50

9. Use the table in #8 to find the median and mode costs.

10. Bill's scores on his first four science tests are 86, 90, 84, and 91. What must Bill earn on the fifth test so that his average (mean) will be exactly 88?

11. Olivia has an average score of 92 on five French tests. If she earns a score of 96 on the sixth test, what will her new average score be? Round to the nearest tenth.

12. At a movie theater, ten movies are playing and their lengths are 105, 95, 115, 120, 150, 130, 100, 125, 110, and 135 minutes. Find the average length of a movie playing at this theater to the nearest tenth.

13. The time in minutes it took Jonathan to walk to the park each day this week are 18, 15, 15, 12, and 14. Find the range of the times.

14. Use the data in #13 to find the average time it took Jonathan to walk to the park.

15. Using the data in #13, find the median and the mode.

WEEK 8

1. Solve. $\frac{5}{8} - \frac{1}{10}$	2. Solve. $\frac{3}{4} \div \frac{1}{8}$	3. Solve. $5 - (-4)$
4. Solve. -21 (-5)	5. Solve. $-120 \div 8$	6. Replace each ⊡ with <, >, or = to make a true statement. $-0.62 \boxdot -\frac{6}{7}$
7. Replace each ⊡ with <, >, or = to make a true statement. $\frac{12}{44} \boxdot \frac{8}{11}$	8. Order the set of rational numbers from least to greatest. $4\frac{4}{5}, 4.85, 2\frac{5}{8}, 2.6$	9. Solve. $-6 \cdot \left(-\frac{3}{4}\right)$
10. Solve. $-\frac{7}{18} \div \frac{14}{15}$	11. Joe is mixing $5\frac{1}{2}$ gallons of orange drink for his class picnic. Every $\frac{1}{2}$ gallon requires 1 packet of orange drink mix. How many packets of orange drink mix does Joe need?	12. Express as a fraction or mixed number in simplest form. 140%
13. What number is 110% of 51?	14. Find the perimeter of a triangular garden with the following measurements: 3.5 m, 4.0 m, 6.0 m.	15. Find the area of a circle with a diameter of 25 in. Use 3.14 for π. Round to the nearest tenth.

Fractions to Decimals

Directions: Find each decimal equivalent. No calculator allowed! Look for patterns.

$\frac{1}{8} =$

$\frac{1}{4} = \frac{2}{8} =$

$\frac{3}{8} =$

$\frac{2}{4} = \frac{4}{8} =$

$\frac{5}{8} =$

$\frac{3}{4} = \frac{6}{8} =$

$\frac{7}{8} =$

$\frac{1}{6} =$

$\frac{1}{3} = \frac{2}{6} =$

$\frac{3}{6} =$

$\frac{2}{3} = \frac{4}{6} =$

$\frac{5}{6} =$

$\frac{1}{10} =$

$\frac{1}{5} = \frac{2}{10} =$

$\frac{3}{10} =$

$\frac{2}{5} = \frac{4}{10} =$

$\frac{5}{10} =$

$\frac{3}{5} = \frac{6}{10} =$

$\frac{7}{10} =$

$\frac{4}{5} = \frac{8}{10} =$

$\frac{9}{10} =$

Answer Key

Week 1:

1. 5
2. -8
3. -27
4. -123
5. -22
6. -15
7. -32
8. -60
9. 22
10. 90
11. 5
12. -180
13. 17° F
14. -42 feet
15. $122

Week 2:

1. <
2. >
3. <
4. <
5. =
6. >
7. $3.06,\ 3\frac{1}{6},\ 3\frac{3}{4},\ 3.8$
8. $-0.5,\ -\frac{1}{9},\ \frac{1}{10},\ 0.11$
9. $-4.65,\ -4\frac{3}{5},\ -4.09,\ -3\frac{2}{5}$
10. $-\frac{5}{6}$
11. $-\frac{3}{10}$
12. $\frac{9}{20}$
13. -5.4
14. 153.8
15. -14.7

Week 3:

1. 0.845
2. -13.34
3. 40.89
4. -7.05
5. -120
6. 60
7. $-\frac{2}{15}$
8. $-\frac{5}{8}$
9. $\frac{21}{4}$ or $5\frac{1}{4}$
10. 4
11. -2
12. -14
13. 3 slices
14. 18 hours
15. 34 uniforms

Week 4:

1. $\frac{1}{20}$
2. $\frac{6}{5}$ or $1\frac{1}{5}$
3. $\frac{1}{250}$
4. 20%
5. 70
6. 4.5
7. 70
8. 1.25
9. 125
10. 17 shots
11. 90%
12. 6 hamsters

Week 5:

1. 20 m
2. 38 km
3. 90 in.
4. 36 mm
5. $22\frac{1}{2}$ in.
6. 22 ft.
7. 18.8 cm
8. 31.4 in.
9. 23.2 m
10. 53 ft.
11. 847.8 in.
12. 3980.9 miles

Week 6:

1. 6 cm^2
2. 36 in^2
3. 120 m^2
4. 66 mm^2
5. 3.14 m^2
6. 14.1 in^2
7. 7 ft
8. 19.6 square miles
9. 30 cm^3
10. 37.44 mm^3
11. 27 m^3
12. 2 in.

Week 7:

1. 5
2. 5
3. 5
4. 54
5. 53
6. 53
7. 16
8. $2.50
9. median = $2.25; mode = $2
10. 89
11. 92.7
12. 118.5 min
13. 6 min
14. 14.8 min
15. median and mode = 15 min

Week 8:

1. $\frac{21}{40}$
2. 6
3. 9
4. 105
5. -15
6. >
7. <
8. $2.6,\ 2\frac{5}{8},\ 4\frac{4}{5},\ 4.85$
9. $\frac{9}{2}$ or $4\frac{1}{2}$
10. $-\frac{5}{12}$
11. 11 packets
12. $\frac{7}{5}$ or $1\frac{2}{5}$
13. 56.1
14. 13.5 m
15. 490.6 in^2

Fractions to Decimals:

.125	$.1\overline{6}$	.1
.25	$.\overline{3}$	.2
.375	.5	.3
.5	$.\overline{6}$	.4
.625	$.8\overline{3}$	.5
.75		.6
.875		.7
		.8
		.9