NAME  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (Please  print  your  first  and  last  name)

Sussex  Academy

Summer  Math  Practice

**Entering  7th  GRADE**

Dear  Students  and  Parents,  Purpose:

To  help  students  retain  prior  knowledge  and  be  better  prepared  for  7th  grade,  all  Sussex  Academy

students  ***are  required***to  complete  this  practice/review  packet  over  the  summer.    **The  packet  and**

**completed  work  is  due  on  the  first  day  of  school.**

**It  is  also  very  important  that  students  have  “quick  recall  or  fluency”  with  basic  facts.**This  includes  all

four  operations  (addition,  subtraction,  multiplication,  and  division)  for  the  numbers  1-­‐15

**Options  to  improve  quick  recall  and  fluency  with  math  facts:**

Play  games  online,  there  are  a  multitude  of  apps  available  that  students  will  enjoy  practicing  as  well  as  websites  such  as [www.aaamath.com](http://www.aaamath.com)[,  www.ixl.com](http://www.ixl.com)[,  www.firstinmath.com](http://www.firstinmath.com)[,  www.khanacademy.org](http://www.khanacademy.org),  and  others.  These  websites  also  offer  help  or  lessons  on  a  variety  of  topics  that  may  help  students  complete  the  work  included  here.  You  can  also  do  a  search  for  any  of  the  topics  in  a  search  engine  and  many  more  sites  will  be  available  to  you.

Use  flash  cards,  play  games  with  hexahedron  (dice)  and  regular  playing  cards,  as  well  as  board  games

that  challenge  students  to  handle  and  count  money  are  also  good  options.

Use  real-­‐life  situations  that  encourage  students  to  use  math.  Figuring  out  tips  in  restaurants,  estimating  totals  when  purchasing  items,  or  figuring  out  discounts  for  sale  items  without  the  use  of  a  calculator  or  calculator  app  on  their  phone  reinforces  number  sense  problem  solving.

**SHOW  YOUR  WORK  and  do  not  use  a  calculator!**

Many  answers  can  be  *neatly*  written  within  the  worksheet  pages,  however,  if  additional  space  is  needed,  you  may  use  loose-­‐leaf  paper.    Please  label  the  page  number,  section  title,  and  the  problem  number  on  your  lined  paper.  Attach  any  loose-­‐leaf  paper  to  the  back  of  the  packet.

Have  a  great  summer  –  and  keep  those  math  skills  sharp!  Sussex  Academy  Math  Department

**Ratios and Proportional Relationships**

**Find each rate. Remember to label correct units.**

1. $9.00 for 5 boxes of tissue =

2. $0.87 for 3 peaches =

3. $5.00 for 25 oranges =

4. 3 pounds of candy for $6.31=

5. If a person walks ½ mile in each ¼ hour, what is the unit rate in miles per hour?

=

**Complete each rate table: Decide if each pair is proportional**

6. 7. 7

16

=? 4

9

Y or N

|  |  |  |  |
| --- | --- | --- | --- |
| 11 | 22 |  |  |
| 15 |  | 45 |  |

8. 9. 3 =? 15

Y or N

4 20

|  |  |  |  |
| --- | --- | --- | --- |
| 5 |  |  |  |
| 9 |  |  |  |

10. 2 =? 4

Y or N

10 16

**Solve.**

**Challenge Problem!**

Carol and Mike have decided to go see a movie that is playing tonight at 9:00 P.M. at both the Cinema Six and Acme Theater. Cinema Sic is 20 miles away on the freeway, where the speed limit is 60 mph. Acme Theater is only 10 miles away, but the speed limit on the road to the Acme Theater is 25 mph. Which theater should they choose if they want to get there in the shortest time? **Explain how you decided.**

**More Work with Rates, Ratios and Proportions**

**Solve each proportion.**

**1.** *k*

8

**=**  14

4

**k =**

**2.** 14

6

**=**  *d*

15

**d =**

**3.**  3 **=**

7

 *x*

21

**x =**

**Do the rates in each pair have the same meaning? Y or N**

**1.** 15*mi*. **,** 15*hr*

**Y or N 2.** $5.00 **,**  .2*hr*

**Y or N 3.** 20*mi*. **,** 40*gal*

**Y or N**

*hr mi*

*hr*.

*dollar*

*gal*

min .

**Convert (change) each rate to an equivalent rate.**

**1. 75 feet per second to feet per minute**

**2. 90 quarts per hour to quarts per minute**

**3. 2.54 centimeters per inch to meters per inch**

**4. $8.00 per pound to dollars per ounce**

**Convert each quantity to the given unit.**

**1. 63 feet to inches**

**2. 93 yards to feet**

**3. 24 fluid ounces to cups**

**4. 165 centimeters to meters**

**Challenge Problem!**

**The One Liberty Place building in Philadelphia is 945 feet tall. A model of the building used in a movie is 18 inches tall. Find the scale factor of the model to the real building.**

**The Number System**

Add.

1. 7

+ 1 =

2. 4 1 + 2 3 =

15 5 3 7

3. 3

+ 2 =

4. 2 3 + 5 7 =

11 3 5 8

Add or Subtract.

1. h - 1 = 1

9 2

h =

2. s + 2

5

= 9

10

s =

3 x - 5 = 1

11 4

x =

4. y + 11

15

= 14

15

y =

Multiply.

1. 1 x 6 =

2. 5 x 3 =

8 7 9 5

3. 6 x 2 4 =

9

4. 2 1

2

x 6 1 =

3

Divide.

1. 1 ÷ 5 =

2. 3 ÷ 4 =

9 6 5 9

3. 1

÷ 3 1 =

4. 5 1 ÷ 1 1 =

2 4 2 2

**Expressions and Equations**

5

**Translating Words into Expressions (no equal sign)**

Example: 7 less than a number N – 7

**1.** 15 more than 1/3 of a number

**2.** The difference between three times a number (n) and 4

**3.** The product of a number (x) and 3

**Solve each equation.**

**1. y + 15 = 23 y =**

**2. 41 = d – 28 d =**

**3. 3x + 7 = 37 x =**

**4. 17c = 85 c =**

**Use the Order of Operations (PEMDAS) to solve.**

**1. 6 + 8 x 9 =**

**2.** 2(3 + 8) **=**

5 + 2

**3. 8 \* 4 – 2 \* 3 =**

**Which Property is being shown?**

**4. (5 + 3)** ÷ **4 =**

(Associative, Distributive, Commutative, Identity Property)

**1. 8( 3+ 7) = (8 \* 3) + (8 \* 7)**

**2. 7 \* (12 \* 8) = (7 \* 12) \* 8**

**3. 6 + 5 = 5 + 6**

**4. 5 \* 0 = 0**

**Challenge Problem: Solve for x.**  *x*

11

**+ 21 = - 35**

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**Geometry**

6

**d the Area of this triangle**

ase = 7 cm and the Height = 10 cm

A =

 (use correct label)

**Find the Surface Area of this rectangular prism.**

(hint: make a net)

The length is 9 cm

The width is 7 cm

The height is 3 cm

SA =

 (use correct label)

**Find the Volume of this cylinder**

Use 3.14 for pi Radius of 12 feet Height of 8 feet

**V =**

 **(use correct label)**

**Fin**

B

**Find the area of this parallelogram.**

Base = 12 cm

Height = 19 cm

**A = (use correct label)**

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7

**STATISTICS & PROBABILITY**

Find the mean, median, mode, and range for each set of data.

1. 30, 38, 42, 38, 17, 41, 41, 36

Mean Median Mode Range

2. 19, 19, 19, 34, 23, 23, 23, 16, 34

Mean Median Mode Range

3. Make a Stem and Leaf plot of the set of numbers: 19, 19, 19, 34, 23, 23, 16,

56, 58, 59, 62, 65, 65

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**ADD**

1. 7 + (- 4) =

**Review of Integers**

2. (- 4) + 2 =

3. (-25) + (-21) =

8

4. (-16) + 12 =

5. (-66) + 19 =

6. 42 + (-2) =

**SUBTRACT**

1. (- 38) – (-6) =

4. 10 – 73 =

2. 46 – 52 =

5. 17 – (- 5) =

3. (-43) – 2 =

6. 76 – 5 =

**MULTIPLY**

1. 2 \* (-6) =

2. (-15) \* ( -3) =

3. 7 \* 12 =

4. (- 8) \* 4 =

5. 42 \* (-6) =

6. (-3) \* (-11)

**DIVIDE**

1. 18 ÷ (-6) =

4. (-63) ÷ 7 =

2. (-70) ÷ 5 =

5. (-196) ÷ 14 =

3. (-6) ÷ (-3) =

6. 117 ÷ 9 =

**CHALLENGE PROBLEM**

**Solve to find the value of d. 15 =** *d*

2

**- (-12)**

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9

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