

Name: Answer Key

## 5th Grade into 6th Grade Honors Math III Summer Homework

**Addition and Subtraction:** Find the sum and difference of the two numbers in each problem *without* a calculator. Show all work.

$$\begin{array}{r} 652 \\ +345 \\ \hline 997 \end{array}$$

$$\begin{array}{r} 726 \\ +268 \\ \hline 994 \end{array}$$

$$\begin{array}{r} 7.75 \\ +1.46 \\ \hline 9.21 \end{array}$$

$$51.4 + 2.86$$

$$\begin{array}{r} 51.40 \\ +2.86 \\ \hline 54.26 \end{array}$$

$$\begin{array}{r} 407 \\ -198 \\ \hline 209 \end{array}$$

$$\begin{array}{r} 7,007 \\ -198 \\ \hline 6,809 \end{array}$$

$$\begin{array}{r} 80.401 \\ -44.232 \\ \hline 36.169 \end{array}$$

$$75.89 - 9.4$$

$$\begin{array}{r} 75.89 \\ -9.40 \\ \hline 66.49 \end{array}$$

**Multiplication and Division:** Find the product and quotient of the two numbers in each problem. Do not use a calculator. Show all work. If there is a remainder, state the remainder as R = \_\_\_\_.

$$65 \times 4 = \begin{array}{r} 65 \\ \times 4 \\ \hline 260 \end{array}$$

$$84 \times 39 = \begin{array}{r} 84 \\ \times 39 \\ \hline 756 \\ 2520 \\ \hline 3276 \end{array}$$

$$591 \div 7 =$$

$$\begin{array}{r} 84 \text{ R} = 3 \\ 7 \overline{)591} \\ \underline{56} \phantom{0} \\ 31 \\ \underline{28} \\ 3 \end{array}$$

$$264 \div 12 =$$

$$\begin{array}{r} 22 \\ 12 \overline{)264} \\ \underline{24} \phantom{0} \\ 24 \\ \underline{24} \\ 0 \end{array}$$

**Rounding:** Underline the given place value. Look to the right. If this digit is 5 or greater, increase the underlined digit by 1. If the digit to the right is less than 5, keep the underlined digit the same. *Round to the nearest...*

tenth 0.3479 .3

hundredth 0.7553 .76

whole number 3.268 3

ten 162.21 160

thousandth 0.0036 .004

hundred 990.54 1000

**Comparing Decimals:** Use the signs  $>$ ,  $<$ , or  $=$ .

$$0.205 \quad \textcircled{<} \quad 0.210$$

$$0.03 \quad \textcircled{=} \quad 0.03$$

$$0.040 \quad \textcircled{<} \quad 0.050$$

$$1.0 \quad \textcircled{>} \quad 0.1000$$

$$0.520 \quad \textcircled{>} \quad 0.500$$

$$0.410 \quad \textcircled{>} \quad 0.405$$

**Comparing Fractions:** Compare each pair of numbers. Write the correct comparison symbol ( $<$ ,  $>$ , or  $=$ ) in each circle. Make sure you have common denominators (or some other method to compare) before writing the inequality symbol.

$$\frac{3}{8} \quad \textcircled{<} \quad \frac{5}{8}$$

$$\frac{3}{4} = \frac{6}{8} \quad \textcircled{>} \quad \frac{3}{8}$$

$$\frac{3}{7} = \frac{12}{28} \quad \textcircled{>} \quad \frac{1}{4} = \frac{7}{28}$$

$$\frac{7}{8} \quad \textcircled{>} \quad \frac{3}{4} = \frac{6}{8}$$

**Ordering Fractions:** Order the following fractions from **least** to **greatest**. Make sure you have common denominators (or some other method to compare) before ordering the fractions.

$$\frac{2}{10}, \frac{1}{5}, \frac{4}{5}, \frac{1}{10}, \frac{6}{10}, \frac{7}{10}, \frac{1}{10}, \frac{1}{5}, \frac{6}{10}, \frac{7}{10}, \frac{4}{5}$$

$$\frac{12}{24}, \frac{6}{24}, \frac{4}{24}, \frac{8}{24}, \frac{1}{2}, \frac{1}{4}, \frac{1}{6}, \frac{1}{3}, \frac{1}{5}$$

$$\frac{1}{6}, \frac{1}{5}, \frac{1}{4}, \frac{1}{3}, \frac{1}{2}$$

$$\frac{1}{2}, \frac{5}{16}, \frac{30}{64}, \frac{3}{8}, \frac{9}{32}$$

$$\frac{7}{32}, \frac{5}{16}, \frac{3}{8}, \frac{30}{64}, \frac{32}{64}$$

**Simplifying Fractions:** Simplify the following fractions. If the fractions are improper, change them to mixed numbers then simplify.

$$\frac{14}{28} \div 7 = \frac{2}{4} = \frac{1}{2}$$

$$\frac{15}{55} \div 5 = \frac{3}{11}$$

$$\frac{12}{51} \div 3 = \frac{4}{17}$$

$$\frac{34}{48} \div 2 = \frac{17}{24}$$

$$\frac{17}{4} = 4\frac{1}{4}$$

$$\frac{80}{25} = 3\frac{5}{25} = 3\frac{1}{5}$$

**Factors:** List all the factors for each number.

18: 1, 2, 3, 6, 9, 18

30: 1, 2, 3, 5, 6, 10, 15, 30

23: 1, 23

45: 1, 3, 5, 9, 15, 45

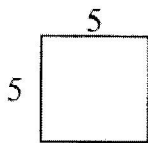
**Multiples:** List the first 5 multiples of each number.

8: 8, 16, 24, 32, 40

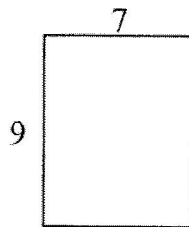
12: 12, 24, 36, 48, 60

24: 24, 48, 72, 96, 120

**Area:** The number of square units needed to cover a region is the area (square units). The formula is  $A = l \times w$ . For each problem, copy the formula, substitute the length and width, and solve. Write your answer with square units.



$$A = l \times w$$
$$A = \underline{5 \times 5}$$
$$25u^2$$

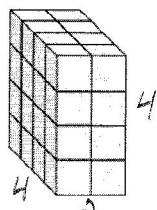


$$A = l \times w$$
$$A = \underline{9 \times 7}$$
$$63u^2$$

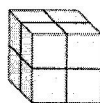


$$A = l \times w$$
$$A = \underline{7 \times 4}$$
$$28u^2$$

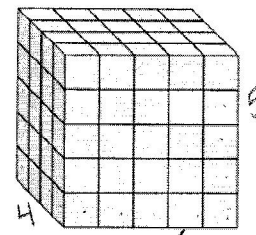
**Volume:** The amount of space inside a solid figure is the volume of the figure (cubic units).



$$V = l \times w \times h$$
$$V = \underline{4 \times 2 \times 4}$$
$$32u^3$$



$$V = l \times w \times h$$
$$V = \underline{2 \times 2 \times 2}$$
$$8u^3$$



$$V = l \times w \times h$$
$$V = \underline{4 \times 5 \times 5}$$
$$100u^3$$

**Order of Operations:** Solve the following problems. Show your work. Be sure to follow the order of operations. PEMDAS (parentheses, exponents, multiplication, division, addition and subtraction (multiplication and division in order of appearance) (addition and subtraction in order of appearance)).

$$(15 \times 8) - 3 =$$

$$120 - 3 = 117$$

$$(30 + 8) \times 6 - 1 =$$

$$38 \times 6 - 1 = 228 - 1 = 227$$

$$36 - 5(16 - 11) =$$

$$36 - 5(5) = 36 - 25 = 11$$

$$25 + 18 \div 6 - 1 =$$

$$25 + 3 - 1 = 28 - 1 = 27$$

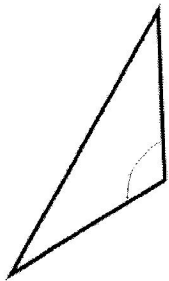
$$(29 - 18) + 14 \div 2 + 6 =$$

$$11 + 7 + 6 = 18 + 6 = 24$$

$$(30 + 8) \times (6 - 1) =$$

$$38 \times 5 = 190$$

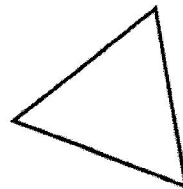
**Triangle Types:** Label the triangles as acute, obtuse, or right.



obtuse



right



acute

**Adding and Subtracting Fractions and Mixed Numbers:** Add or subtract the following fractions. Make sure you have *common denominators before adding or subtracting*.

Remember, you only add or subtract the numerator (top number) and keep the denominator (bottom number) the same. Simplify your final answers.

$$\frac{6}{10} + \frac{3}{10} = \frac{9}{10}$$

common denominator

$$2\frac{3}{8} + 1\frac{2}{8} = 3\frac{5}{8}$$

$$2\frac{1}{9} + \frac{5}{6}$$

$$\frac{2}{18} + \frac{15}{18} = \frac{17}{18}$$

$$2\frac{8}{12} - 1\frac{3}{12} = 1\frac{5}{12}$$

$$2\frac{7}{10} - \frac{2}{4}$$

$$\frac{14}{20} - \frac{10}{40} = \frac{4}{20} = \frac{1}{5}$$

$$3\frac{4}{5} - \frac{1}{4} =$$

$$3\frac{16}{20} - \frac{5}{20} = 3\frac{11}{20}$$

**Quadrilaterals:** Identify the quadrilateral described.

I am a two-dimensional figure that has four sides. I have four 90 degree angles. I have two sets of parallel lines. I also have <sup>two</sup> sides that are one length and my other two sides are a different length. Who am I? a rectangle

I am a two-dimensional shape that has four sides. I have two obtuse angles and two acute angles. I have two different sets of parallel sides. I also have two sides that are one length, and my other two sides are a different length. Who am I? a parallelogram

I am a two-dimensional shape that has four 90 degree angles. I have four sides that are all the same length. I have two pairs of parallel lines. Who am I? a square

I am a two-dimensional shape that has four sides, two pairs of parallel lines and all sides are equal. Who am I? a rhombus

I am a two-dimensional shape that has four sides and exactly one pair of parallel lines. Who am I? a trapezoid

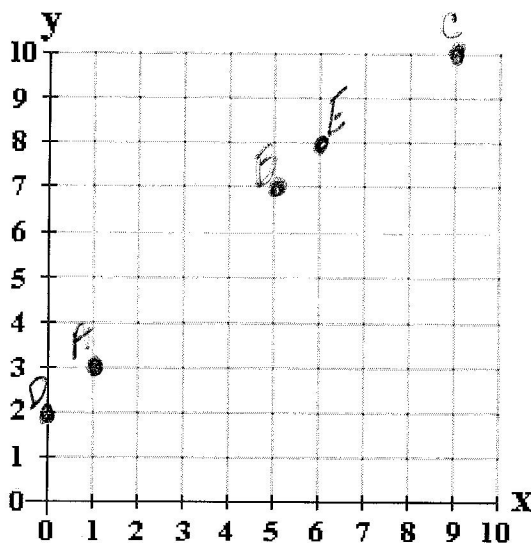
**Multiplying Fractions:** Multiply the following fractions. Multiply the numerators, then multiply the denominators. Simplify if necessary.

$$\frac{3}{4} \times \frac{1}{3} = \frac{3}{12} = \frac{1}{4}$$

$$\frac{2}{5} \times \frac{5}{8} = \frac{10}{40} = \frac{1}{4}$$

$$\frac{7}{8} \times \frac{2}{1} = \frac{14}{8} = \frac{7}{4} = 1\frac{3}{4}$$

**Graphing:** Draw a dot on the location of the coordinates. Name the point with the letter. Remember: The coordinates are in the order of (x, y).



A: (1, 3)

B: (5, 7)

C: (9, 10)

D: (0, 2)

E: (6, 8)

**Expressions:** Rewrite each question as an algebraic expression. Do not solve.

Example: What is 4 more than  $n$ ?  $n+4$

What is the sum of  $a$  and 8?  $a+8$

What is the product of  $y$  and 10?  $10y$

What do you get when you subtract 9 from  $b$ ?  $b-9$

What is  $c$  divided by 22?  $c \div 22$

What is 12 decreased by  $p$ ?  $p-12$

**Conversions:** Convert the following customary units.

$4 \times 12 = 48$   
4 feet and 3 inches = 51 inches

$\times 12$   
3 yards = 36 feet

$1 \text{ pt} = \frac{1}{2} \text{ cup}$   
1 pint and 1 cup = 3 cups

$\times 4$   
6 gallons = 24 quarts

$.0335 = \frac{1}{16}$   
2 tons = 4,000 pounds

$2000 \text{ lbs} = 1 \text{ ton}$   
1 pound and 7 ounces = 23 ounces

$16 \text{ oz} = 1 \text{ lb}$   
81 minutes = 1 hours and 21 minutes

$\times 60$   
2 hours and 38 minutes = 158 minutes