

Rising 6th Grade Summer Math Packet (Honors)

Name: _____

Addition

Find the sum of the two numbers in each problem.
Show all work.

Example:

$$\begin{array}{r} 1 \quad 1 \\ 4 \quad 4 \quad 8 \\ + 1 \quad 8 \quad 8 \\ \hline 6 \quad 3 \quad 6 \end{array}$$

$$\begin{array}{r} 1) \quad 652 \\ + 345 \\ \hline \end{array}$$

$$\begin{array}{r} 2) \quad 203 \\ + 525 \\ \hline \end{array}$$

$$\begin{array}{r} 3) \quad 726 \\ + 268 \\ \hline \end{array}$$

Decimal Addition:

Remember to line up the decimals before adding. Bring the decimal straight down in your answer.

$$\begin{array}{r} 4) \quad 7.75 \\ + 1.46 \\ \hline \end{array}$$

$$5) \quad 51.4 + 2.86$$

$$6) \quad .1274 + 8.25$$

Subtraction

Find the difference between the two numbers in each problem. Show all work.

Example:

$$\begin{array}{r} 3 \quad 13 \\ 7 \quad 4 \quad 3 \\ - 2 \quad 1 \quad 8 \\ \hline 5 \quad 2 \quad 5 \end{array}$$

$$\begin{array}{r} 7) \quad 407 \\ - 198 \\ \hline \end{array}$$

$$\begin{array}{r} 8) \quad 7,007 \\ - 2,426 \\ \hline \end{array}$$

$$\begin{array}{r} 9) \quad 3,414 \\ - 1,218 \\ \hline \end{array}$$

Decimal Subtraction:

Remember to line up the decimals before subtracting. Bring the decimal straight down in your answer.

$$10) \quad 338.38$$

$$11) \quad 80.401 - 44.23$$

$$12) \quad 75.89 - 9.4$$

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Multiplication

Find the product of the two numbers in each problem. Show all work.

Example:

$$\begin{array}{r} 54 \\ \times 16 \\ \hline 324 \\ + 540 \\ \hline 864 \end{array}$$

$$\begin{array}{r} 13) 65 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 14) 42 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 15) 84 \\ \times 39 \\ \hline \end{array}$$

$$\begin{array}{r} 16) 13 \\ \times 70 \\ \hline \end{array}$$

$$\begin{array}{r} 17) 51 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 18) 108 \\ \times 25 \\ \hline \end{array}$$

$$\begin{array}{r} 19) 45 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 20) 178 \\ \times 25 \\ \hline \end{array}$$

$$\begin{array}{r} 21) 201 \\ \times 16 \\ \hline \end{array}$$

$$\begin{array}{r} 22) 2,032 \\ \times 93 \\ \hline \end{array}$$

$$\begin{array}{r} 23) 7,784 \\ \times 91 \\ \hline \end{array}$$

$$\begin{array}{r} 24) 3,699 \\ \times 54 \\ \hline \end{array}$$

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Division

Find the quotient in each problem. If there is a remainder, state the remainders as R= _____. Show all work. Feel free to use a separate sheet of paper.

25)

$$7 \overline{)591}$$

26)

$$12 \overline{)264}$$

27)

$$43 \overline{)2815}$$

28) $90,000 \div 100 =$

29) $3689 \div 1,000$

30) $1,672 \div 100,000$

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...

hundredth

0.547 0.55

Round to the nearest...

31) tenth

0.3479

32) hundredth

0.7553

33) whole number

3.268

34) ten

162.21

35) thousandth

0.0036

36) hundred

990.54

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Compare using $<$, $>$, or $=$

$$1.2 \bigcirc 1.20 \quad 1.2 = 1.20$$

We compare numbers using the following symbols $<$ (greater than), $>$ (less than), or $=$ (equal to)

Compare the decimals.

37) 0.205 _____ 0.21

38) 1.03 _____ 0.03

39) 0.04 _____ 0.050

40) 0.1 _____ 0.1000

41) 0.52 _____ 0.500

42) 0.41 _____ 0.405

Prime Number: A whole number greater than 1 that has only two factors, 1 and itself.
Examples: 2, 3, 5, 7, 11, 13, 17, and 19 are all prime numbers.

Composite Number: A whole number greater than 1 that has more than two factors.
Example: 8 is a composite number since its factors are 1, 2, 4, 8.

Determine if the following numbers are prime or composite. If the numbers are composite, please list all of the factors.

43) 27: _____

44) 39: _____

45) 43: _____

46) 49: _____

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Greatest Common Factor

The greatest factor that two or more numbers have in common (GCF).

1. List all the factors of **four** in order
2. List all the factors of **twenty** in order
3. List the common factors
4. Write the greatest common factor

Finding Common Factors:

4: 1, 2, 4

20: 1, 2, 4, 5, 10, 20

Common Factors: 1, 2, 4 GCF= 4

List all the factors for each number. Circle the common factors.

47) 18: _____

30: _____

Common Factors: _____ Greatest Common Factor: _____

48) 60: _____

45: _____

Common Factors: _____ Greatest Common Factor: _____

49) 23: _____

29: _____

Common Factors: _____ Greatest Common Factor: _____

50) 56: _____

72: _____

Common Factors: _____ Greatest Common Factor: _____

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Least Common Multiple

The smallest nonzero multiple that two or more numbers have in common.

1. List the first 6 multiples of 4
2. List the first 6 multiples of 6
3. List the common multiples
4. Write the least common multiple.

Finding Common Multiples:

4: 4, 8, 12, 16, 20, 24

6: 6, 12, 18, 24, 30, 36

Least Common Multiple= 12

51) 8: _____

12: _____

Common Multiples: _____ Least Common Factor: _____

52) 7: _____

11: _____

Common Multiples: _____ Least Common Factor: _____

53) 25: _____

10: _____

Common Multiples: _____ Least Common Factor: _____

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Comparing Fractions

Compare each pair of numbers. Write the correct comparison symbol ($<$, $>$, $=$) in each circle. Make sure you have common denominators before comparing numerators.

Example:

$$\begin{array}{ccc} \frac{1}{3} & \bigcirc & \frac{3}{4} \\ \downarrow & & \downarrow \\ \frac{4}{12} & & \frac{9}{12} \end{array}$$

54)

$$\frac{3}{8} \bigcirc \frac{5}{8}$$

55)

$$\frac{3}{4} \bigcirc \frac{3}{8}$$

56)

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

57)

$$\frac{3}{7} \bigcirc \frac{1}{4}$$

58)

$$\frac{3}{5} \bigcirc \frac{5}{6}$$

59)

$$\frac{7}{8} \bigcirc \frac{3}{4}$$

Ordering Fractions

Order the following fractions from least to greatest.

Remember: when ordering fractions, you need to make sure they have common denominators

60)

$$\frac{3}{8} \quad \frac{5}{8} \quad \frac{4}{8} \quad \frac{2}{8} \quad \frac{7}{8}$$

61)

$$\frac{1}{5} \quad \frac{4}{5} \quad \frac{1}{10} \quad \frac{6}{10} \quad \frac{7}{10}$$

62)

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

63)

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

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Order of Operations

Solve the following problems. Show your work. Be sure to follow the order of operations.

Parenthesis

Exponents

Multiplication or Division: Which ever comes first from left to right.

Addition or Subtraction: Which ever comes first from left to right.

Example: $8 - 4 \div 2 + 2 =$
 $8 - 2 + 2 =$
 $6 + 2 =$
 8

64) $15 \times 8 - 3 =$

65) $36 \div 4 \times 3 =$

66) $(30+8) \times 6 - 1 =$

67) $(30 + 8) \times (6 - 1) =$

68) $(29-18) + 14 \div 2 + 6 =$

69) $64 \div 8 \times 2 =$

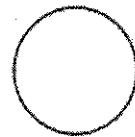
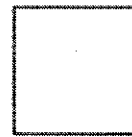
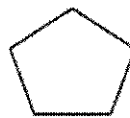
70) $36 - 5(16-11) =$

71) $25 + 18 \div 6 - 1 =$

72) $24 + 6^2 - 1^4 =$

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Geometry-Who am I?
Use the following shapes to answer the questions below.



73) I am a 2 dimensional shape that has four sides. I have four 90 degree angles. I have two sets of parallel lines. I also have two sides that are one length, and my other two sides are a different length.

Who am I? _____

74) I am a 2 dimensional shape that has three acute angles. All of my sides are the same length. I have no parallel sides.

Who am I? _____

75) I am a 2 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? _____

76) I am a 2 dimensional shape that has 5 obtuse angles. I do not have any sides that are parallel.

Who am I? _____

77) I am a 2 dimensional shape that has four 90 degree angles. I have four sides that are all the same length. I have two different sets of parallel lines.

Who am I? _____

Identify each of the following geometric figures by the most specific name possible. A word bank is given to you below. You will use each word exactly once.

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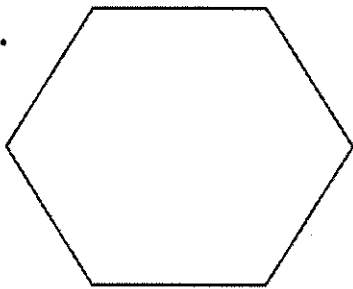
Isosceles Triangle
Pentagon
Trapezoid

Equilateral Triangle
Hexagon

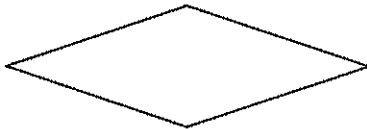
Scalene Triangle
Rhombus

Square
Parallelogram

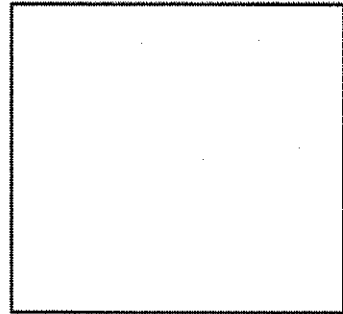
78)



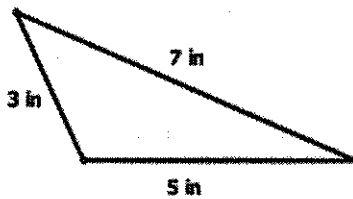
79)



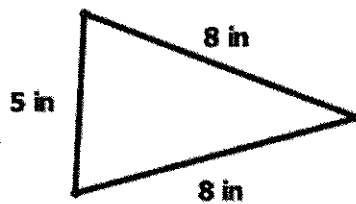
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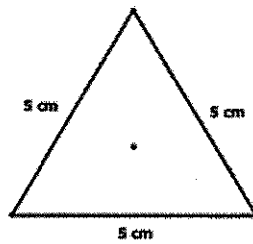
81)



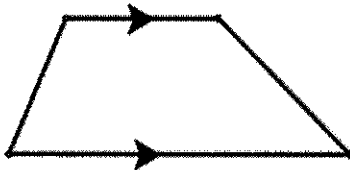
82)



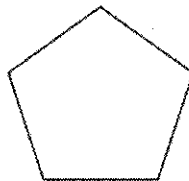
83)



84)



85)



86)



Simply Fractions

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

Example: $\frac{10}{5} = 2$
 $\frac{25}{5} = 5$

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87)

$$\frac{14}{28}$$

88)

$$\frac{15}{55}$$

89)

$$\frac{12}{51}$$

90)

$$\frac{34}{48}$$

91)

$$\frac{17}{4}$$

92)

$$\frac{80}{25}$$

Adding Fractions and Mixed Numbers

Add the following fractions. Make sure you have common denominators before adding. Remember, you only add the numerator (top number) and you keep the denominator (bottom number) the same! Simplify your final answers.

Example:

$$\begin{array}{r} \frac{1}{3} + \frac{1}{5} = \\ \downarrow \quad \downarrow \\ \frac{5}{15} + \frac{3}{15} = \frac{8}{15} \end{array}$$

93)

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

94)

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

95)

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

96)

$$\frac{1}{12} + 1\frac{2}{3} =$$

Subtracting Fractions

Subtract the following fractions. Make sure you have common denominators before subtracting. Remember, you only subtract the numerator (top number) and you keep the denominator (bottom number) the same! Simplify your final answers.

Example:

$$\begin{array}{r} \frac{5}{6} - \frac{1}{3} = \\ \downarrow \quad \downarrow \\ \frac{5}{6} - \frac{2}{6} = \frac{3}{6} = \frac{1}{2} \end{array}$$

97)

98)

99)

100)

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

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

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

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

Multiplying Fractions

Multiply the following fractions. Multiply the numerators; then multiply the denominators. Simplify, if necessary.

Example:

$$\frac{3}{5} \times \frac{5}{9} = \frac{15}{45} = \frac{1}{3}$$

101)

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

102)

$$\frac{2}{3} \times \frac{5}{8} =$$

103)

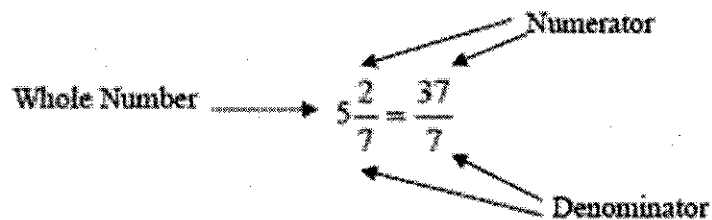
$$\frac{1}{3} \times \frac{2}{5} =$$

104)

$$\frac{7}{8} \times 2 =$$

Mixed Numbers

To convert a mixed number, $5\frac{2}{7}$, to an improper fraction, $\frac{37}{7}$:



$$5\frac{2}{7}$$

Work in a clockwise direction, beginning with the denominator, (7).

$$5 \times 7 = 35$$

Multiply the denominator (7) by the whole number, (5)

$$35 + 2 = 37$$

Add that product, (35), to the numerator (2) of the fraction.

$$\frac{(5 \times 7) + 2}{7} = \frac{37}{7}$$

The denominator remains the same for the mixed number and the improper fraction.

Convert the following mixed numbers to improper fractions:

105) $4\frac{2}{5} =$

106) $14\frac{3}{4} =$

107) $7\frac{3}{4} =$

108) $16\frac{1}{2} =$

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109) $12 \frac{5}{9} =$

110) $28 \frac{2}{3} =$

111) $8 \frac{1}{8} =$

112) $6 \frac{1}{12} =$

Word Problems:

Complete the following word problems. Show your work for each problem.

113) George is filling boxes with his baseball card collection. He has 572 cards and 11 boxes. How many cards can be put into each box if he wants them to all have an equal number of cards?

114) Lois has $\frac{1}{2}$ of a pie that she must divide equally with four friends. She cuts five pieces of pie from the $\frac{1}{2}$ pie. If all of the pieces are equal in size, what part of the total whole pie will each piece represent?

115) Theo orders a cake for his son's birthday. The length and width of the cake are 72 inches and 23 inches respectively. What is the area of the cake?

116) A farmer wants to put a fence around a piece of land to keep his sheep away from his cows. One side of the fence is 12.6 m, the second side is 11.2 m and the third side is 13.5 m. What is the total perimeter of the fence?

117) Kate has a hexagonal fish tank. She wants to buy a strip of fake plants to stick around the perimeter of the tank. All the sides measure 15 cm each. How many centimeters of the fake plants will she need to buy to stick all the way around the fish tank?

A regular hexagon with a side length of 15 cm.

[illegible]

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Congratulations!

You have completed your 6th grade summer math packet!

