Name _____   **Mixed Review: Entering Grade 8**

Solve each problem. (Remember Order of Operations)

1) $(6 - 10) \times \left| -2 \right|$

2) $3^2 + 21 \div 3$

3) $2 \times 1 \times (-1) \times (-3) \times (-1) \times (1) \times (-2) =$

4) $6^0 + 1^{10} + 18^1 =$

Find the value of each expression given: a = 2, b = -3, c = 15

5) $2a + 6b/3$

6) $18/b + 7(15) - b$

7) $9a + (cb)$

Use what you know about operational 'clue words' to write a variable expression for each of the verbal expressions below.

8)   24 increased by twice number

9)   1/3 of a number less 8

10)   The product of a number increased by 6 and -2

11)   7 more than the quotient of a number and 4

12)   25 decreased by 2 times a number

Write an equation and then solve the following word problems

13) Ali's family has a large garden with many different fruit trees. Last year they harvested a lot of fruit: twenty-six pounds of peaches, twenty-two pounds of plums, and thirty-five pounds of apples. Ali's mother decided to dry twenty-nine pounds of the total amount of fruit in the sun. She used the rest of the fruit to make jelly. How many pounds of fruit did Ali's mother have to make jelly?

14)   The principal of Jefferson Elementary School asked the 496 students whether or not they wanted to celebrate 'Hoodie Hoo Day'. 282 students said, "Yes!" Half of the rest other rest of the students did not respond. The rest of the students said, "No!" How many students said, "No!"

Solve the following by balancing equations. SHOW WORK.

15) $9 - 3p = 27$

16) $4(h - 2) = -32$

17) $f/2 - 18 = -10$

18) $7z + 4(2 - z) = 74$

Convert the following mixed numbers <u>to improper fractions</u> and place in <u>lowest terms</u>:

19) 3 3/15

20) - 5 10/13

21) 10 5/12

Place the following fractions <u>in lowest terms</u>, improper fractions should be converted to mixed numbers.

22) 24/72

23) 120/11

24) - 56/96

Solve the following fraction problems.

25) 4 2/9 + 3 7/18 =

26) 3 3/4 x 5 5/15 =

27) 12/25 ÷ -18/50 =

28) 5 3/5 − 3 11/15 =

29) (10 2/5)b + 2/3 = 2 5/6

30) $4/9 - (2/3)c = 3\ 5/18$

Fill in the missing cells in the table below.
<u>Use the repeating decimal symbol if necessary. Place fractions in lowest terms.</u>

Fraction	Decimal	Percent
39/500	31)	32)
33)	34)	**165%**
35)	**0.00004**	36)
37)	38)	**60%**
39)	**4.016**	40)
5/9	41)	42)

Solve the following decimal problems (put your solution in decimal form using the repeating decimal symbol if necessary):

43) $15.809 + 2.08 + 0.0097 =$ 44) $56.9 \times (-1.01) =$

45) $63.5 \div 2.5 =$ 46) $4.78 - 15.43 =$

47) $6.4a - 0.8 = 7.2$ 48) $-0.25(4.4 + 16b) = 31.9$

Place the following rational and irrational numbers in <u>order from LEAST to GREATEST.</u>

49) $0.51,\ 0.506,\ -1/2,\ -0.\overline{5},\ 50\%$

50) 2/3, 1/6, -5/12, -3/4, 5/3, -8/3, 25%

List the number of significant figures in each of the numbers.

51)   0.0500500   52) 10500   53) 300.006

Use the conversion factors listed to convert the following measurements to the units specified.

1 ft. = 12 in.	**1 cup = 8oz**	**1 quart = 2 pints**
1 yd. = 3 ft.	**1 pint = 2 cups**	**1 gallon = 4 quarts**
1 mile = 5280 ft.		

54) Convert 6 miles into yards.

55) Convert 18 pints into gallons.

Percent Problems. Round your answer to the nearest tenth as necessary.

56) 20% of 100   57) 65% of 200   58) 95% of 740

59) 372 is 155% of what number?   60) What percent of 55 is 30?

61) If the original price of a t-shirt is $16. What is the price after a 15% discount?

62) Pay-More Mart sells its merchandise at a 90% mark-up.
    What is the retail price of an item that is $52 wholesale?

Find the Percent Change. Round your answer to the nearest tenth of a percent.

63)   270 is increased to 1134   64)   150 is decreased to 40

Simple Interest Problems. Given the following, fill in the missing value.
Round solutions to the hundredths place as necessary.

65)   principal: $5,700   time: 5 years   interest: $2000   rate: _____

66)   principal: $28,000   interest rate: 5%   interest: $4,200   time: _____

67)   interest rate: 8%   time: 2 years   interest: $85,600   principal: _____

68)   principal: $54,433   interest rate: 3%   time: 1 year   interest: _____

Write an equivalent ratio in simplest form:

69)   25:350 =   70)   8/56 =   71) 999:234 =

Solve the proportions:

72) $\dfrac{18}{4} = \dfrac{a}{18}$ 73) $\dfrac{18}{198} = \dfrac{33}{h}$ 74) $\dfrac{169}{338} = \dfrac{w}{154}$

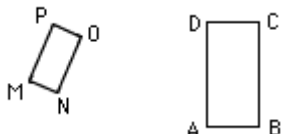**Find the Unit Rate**

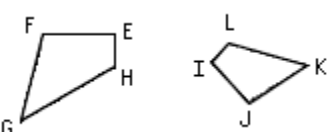75)   605 miles in 10 hours   76)   91 chairs in 7 rows

77)   A 2.6-kg bag of cherries for $4.84   78)   13 books for $71.76

Similar Figures, Maps and Indirect Measurement: Find the Missing Dimension

79) $\overline{MN} = 2$" $\overline{NO} = 3$" $\overline{MP} = 3$" $\overline{OP} = 2$"

$\overline{BC} = 24$"   AB = _____

80) $\overline{EF} = 3$' $\overline{EH} = 1.5$' $\overline{HG} = 4$' $\overline{FG} = 2\ 1/2$'

$\overline{IL} = 2.25$'   IJ = _____

81) Two cities that are actually 336 miles apart, measure 6 inches apart on a map. How far apart will two cities that are actually 180 miles apart be on the map? Round your solution to the nearest tenth.

82) If a tree that is 55 feet tall casts a shadow that is 10 feet long, what is the length of the shadow for a 75 foot tree? Round your solution to the nearest tenth.

Use the coordinate plane for problems 83-88:

83) Graph the Origin and Label it Point O.

84) Graph Point A on the x-axis and write the coordinates as an ordered pair.

85) Graph Point B on the y-axis and write the coordinates as an ordered pair.

86) Graph Point C in Quadrant 2 and write the coordinates as an ordered pair.

87) What is the slope of the line that connects points D and E?

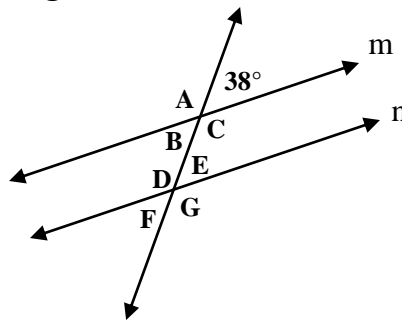88) Write the equation of the line that connects points D and E.
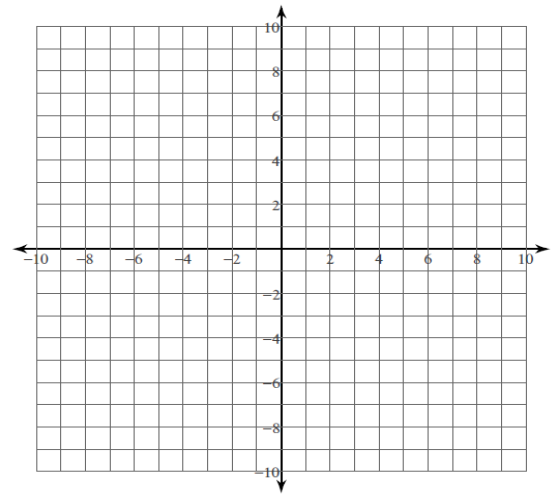
Use the protractor for problems 89-92:

89) Identify an acute angle and list its measure.

90) Identify an obtuse angle and list its measure.

91) List two complementary angles.

92) List two supplementary angles.
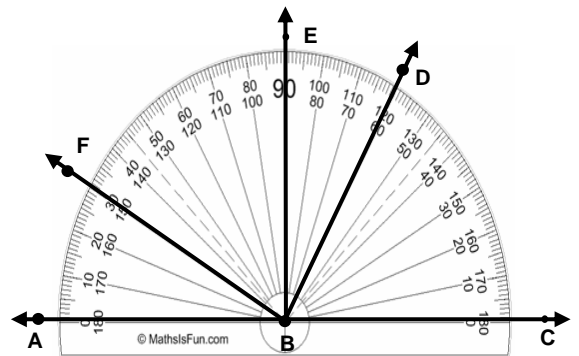
If m ‖ n, give the measure of the following angles.

93) ∠ A

94) ∠ D

95) ∠ F

Identify the polygons and determine the measure of ∠A:

96)

97)

98)