

7th Grade

Summer Math
Work Packet

*All BLSYW 7th Grade Students must submit the completed Math Summer Work Packet to their mathematics teacher on Friday, September 3, 2010.

SUMMER MATH PACKET - SEVENTH GRADE

Round off to the nearest:

- | <u>Tenth</u> | <u>Hundreds</u> | <u>Thousands</u> | <u>Ten-thousandth</u> |
|--------------|-----------------|------------------|-----------------------|
| 1) .85 | 2) 4,138 | 3) 4,783 | 4) .394781 |

5) Read as a decimal: .9

6) Write as a decimal: Thirty-one and seven hundredths

- 7) Add: 8) Subtract: 9) Multiply: 10) Divide:

$$5,908$$

$$8,341,095$$

$$87,943$$

$$62 \overline{)95,326}$$

$$4,218$$

$$\underline{4,074,746}$$

$$\underline{\quad 27}$$

$$1,462$$

$$6,988$$

$$\underline{2,751}$$

11) Add 4.095 ; 409.5 ; .4095 ; 40.95

12) Subtract 26.63 from 183.2

13) Multiply 32.5 by 1.75

14) Divide .72 by .0016

15) Find the least common denominator: $\frac{2}{3}, \frac{5}{8}, \frac{7}{16}$

16) Change the fraction to a higher term: $\frac{14}{15} = \frac{\quad}{60}$

17) Reduce the fraction: $\frac{14}{35} =$

18) Change the improper fraction to a mixed number: $\frac{61}{8} =$

19) Simplify the mixed number: $7\frac{11}{5} =$

20) Change the mixed number to an improper fraction: $6\frac{5}{7} =$

Add:

$$21) \begin{array}{r} 2\frac{3}{4} \\ 4\frac{1}{6} \\ \underline{3\frac{5}{8}} \end{array}$$

Subtract:

$$22) \begin{array}{r} 7\frac{2}{5} \\ \underline{3\frac{9}{10}} \end{array}$$

Multiply:

$$23) 14 \times 3\frac{2}{5}$$

Divide:

$$24) 5\frac{2}{3} \div 3\frac{3}{4}$$

25) Change the fraction to a decimal: $\frac{1}{7} =$

26) Change the decimal to a percent: .27 =

27) Change the percent to a decimal: $84\frac{2}{3}\% =$

28) Change the decimal to a fraction: $.44\frac{4}{9} =$

fraction decimal percent

29) $\frac{7}{11}$ _____ _____

30) _____ .24 _____

31) _____ _____ 80%

32) $\frac{3}{7}$ _____ _____

33) _____ .015 _____

34) _____ _____ .8%

35) 35% of _____ is 21.

36) _____ is 55% of 30?

37) 25 is _____% of 75?

38) Lillie Belle bought a \$20 CD for 15% off the regular price. How much did she get off the regular price?

39) Linda Faye bought a CD regularly priced at \$16 for \$6 off the regular price. The amount she got off the regular price was what percent of the regular price?

40) Sam got a 20% discount on a CD. His discount amounted to \$2.50. What was the regular price of the CD?

41) Horace bought three CD's for \$32, which was 75% of the regular price of the CD's. What was the regular price of the CD's?

42) Elmo's taxes were \$2,000 last year and are \$2,400 this year. What was his percent of increase?

43) Billy Bob's taxes are \$3,000 this year, which is \$500 more than they were last year. What was his percent of increase?

44) Will scored 15 points last week. This week he scored 6 more points than last week. What was his percent of increase?

43) Find the perimeter of a square when a side is equal to 4.8 ft.

44) Find the perimeter of a rectangle whose length = 13 in. and width = $10\frac{1}{2}$ inches.

45) Find the circumference of a circle when the diameter is equal to 7 yards.

46) Find the area of a trapezoid when $a = 9$ miles, $b = 12$ miles, and $h = 7$ miles.

47) Find the area of a square when the side equals 11 inches.

48) Find the area of a circle when the radius equals $3\frac{1}{2}$ feet.

49) Find the volume of a cube when its' side is equal to $2\frac{1}{3}$ inches.

50) Find the volume of a cylinder when the radius = $1\frac{3}{4}$ feet and the height = 8 feet.

- 51) Find the volume of a cone when the radius = $1\frac{1}{2}$ yards and the height = 21 yards.
- 52) Find the volume of a sphere when the radius = $\frac{1}{2}$ of a foot.
- 53) Find the perimeter of a triangle when: $a = 7$, $b = 11$, $c = 9$.
- 54) Find the area of a triangle when $b = 11$ and $h = 6$.
- 55) Find the area of a rectangle when: $l = 4\frac{5}{8}$ and $w = 3\frac{2}{3}$.
- 56) Find the area of a parallelogram when $b = 14$ and $h = 9\frac{3}{4}$.
- 57) Find the volume of a rectangular solid when $l = 12$, $w = 9$, $h = 5\frac{2}{3}$.
- 58) Find the volume of a sphere when: $r = \frac{1}{8}$.
- 59) Find the circumference of a circle when the radius is equal to 7 yards.
- 60) Find the area of a trapezoid when $a = 3.4$ ft., $b = 6.8$ ft., and $h = 7$ ft.
- 61) Cost of a jacket \$75.98
Tax rate: 7%
Amount of tax: _____
- 62) Cost of a meal \$46.50
Percent of tip: 18%
Amount of tip: _____
- 63) Cost of meal \$32.75
Percent of tip: 20%
Amount of tip: _____
Percent of tax: 8%
Amount of tax _____
Total cost of meal _____
- 64) Cost of football \$45.75
ON SALE: discount of 30%
Amount of discount: _____
Sale price: _____
- 65) Cost of tennis racket: \$65
On sale for \$51.95
Amount of discount: _____
- 66) Cost to store owner: \$255
Percent of markup: 20%
Amount of markup: _____
- 67) Salesman sells: \$1,345
His rate of commission: 25%
Salesman's commission: _____
- 67) Salesman sells: \$5,600
Salesman's commission \$1,120
Salesman's rate of comm. _____
- 68) Cost to store owner: 5,700
Percent of markup: 22%
Markup amount: _____
Cost to customer: _____
- 69) Salesman sells: \$3,900
Rate of commission: 20%
Amount of commission: _____
Base pay: \$650
Salesmans total pay: _____

70) Principle: 8,000
Rate: 9%
Time: 2 years
Find the interest: _____

71) Interest: \$525
Rate: 7%
Time: 1.5 years
Find the principle: _____

72) Interest: \$675
Rate: 9%
Principle: \$2,500
Find the time _____

72) Interest: \$1,100
Principle: \$10,000
Time 2 years
Find the rate _____

GIVE THE DEFINITION OF THE FOLLOWING TERMS:

- 73) acute angle
- 74) acute triangle
- 75) adjacent angles
- 76) complementary angles
- 77) congruent angles
- 78) congruent triangles
- 79) equilateral triangles
- 80) hexagon
- 81) isosceles triangle
- 82) parallelogram
- 82) parallel lines
- 84) perpendicular lines
- 85) pentagon
- 86) polygon
- 87) protractor
- 88) obtuse angle
- 89) obtuse triangle
- 90) octagon
- 91) quadrilateral
- 92) right angle
- 93) rectangle
- 94) rhombus
- 95) scalene triangle
- 96) square
- 97) straight angle
- 98) supplementary angles
- 99) sum of the angles of a triangle
- 100) trapezoid
- 101) triangle
- 102) vertex
- 103) vertical angles

Here are the six formulas for surface area: Three of them need to be used to work problems 138, 139, and 140. You should already know the formulas for perimeter, circumference, area, and volume. (problems 43 - 60)

- A) $6s^2$ B) $2(lw+wh+lh)$ C) $4\pi r^2$
 D) $\pi r^2 + \pi r l$ E) $s^2 + \frac{1}{2}Pl$ F) $2\pi r^2 + \pi dh$

Points scored by Titans

36, 18, 24, 21, 28, 18, 35, 21, 45

104) Find the mean

105) Find the median

106) Find the mode

Simplify:

107) $\frac{-24}{-4} =$ 108) $-12 + 7 - 8$ 109) $(4)(-5)(-2)$

110) $5 - (4 + 3 \{ 6 - 2 \} + 8) - 10$

111) Simplify: $(-5)(-3) + (4)(-2) - (6)(1)$ 112) $4 - (7x - 2)$

113) Simplify: $12 - 8 \div 2^2 \cdot 3$

114) Evaluate: $R = \frac{2a-b}{2b-a}$ when $a = -4$ and $b = 2$

Solve for x: Numbers 115) through 126)

115) $\frac{x}{6} = 4$ 116) $x + 18 = 7$ 117) $-5 + \frac{x}{3} = 4$

118) $7x = -42$ 119) $4x + 14 = 35$ 120) $15 - 3x = 0$

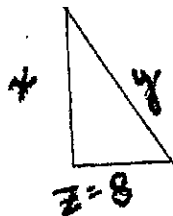
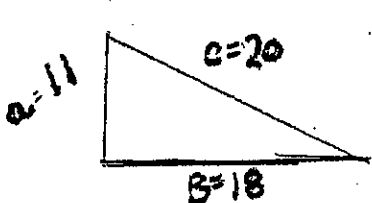
121) $9x + 6 = 5x + 22$ 122) $7x + 10 = 9x - 14$

123) $10x - 7 - 2x = 9 - 3x + 14$ 124) $16 - 2x - 8 + 7x = 0$

125) $\frac{6}{5}x - 8 = 10$ 126) $20 - x = 9$

127) Abby gets 14 hits at 33 at bats. How many at bats would it take her to get 39 hits?

128) Find the missing sides of the similar triangles.



129) Estimate the square root of:

a) $\sqrt{45} =$ b) $\sqrt{90} =$

130) Find the hypotenuse (c) of the right triangles: (use $a^2 + b^2 = c^2$)

I) when $a = 10$ and $b = 7$

II) when $a = 7$ and $b = 9$

131) Construct a 40 degree, 60 degree, 80 degree triangle:

Standard units of measurements:

- 154) _____ yards = 36 inches
- 155) _____ tons = 6,000 pounds
- 156) _____ pints = 2 quarts
- 157) _____ inches = 2 feet
- 158) _____ yards = 6 feet
- 160) _____ feet = 1 mile
- 161) _____ cups = 1 quart
- 162) _____ quarts = 3 gallons
- 163) _____ inches = 1 yard
- 164) _____ ounces = 2 pounds

Geometric terms

- _____ 157) hexagon
- _____ 158) isosceles triangle
- _____ 159) acute triangle
- _____ 160) rhombus
- _____ 161) scalene triangle
- e) a triangle with all sides less than 90 degrees
- f) has no congruent sides or angles
- g) has two congruent sides
- h) a six sided polygon
- i) opposite sides are parallel and congruent

Metric terms

- 162) kilometer _____
- 163) milligram _____
- 164) gram _____
- 165) centimeter _____
- 166) meter _____
- 167) milileter _____
- 168) kilogram _____
- 169) liter _____
- 170) millimeter _____
- a) about the mass of a speck of dust
- b) about 5 drops of water
- c) a little more than one half mile
- d) about the thickness of a dime
- e) the distance from a doorknob to the floor
- f) a little more than a quart of milk
- g) about the width of a pinkie nail
- h) about half the mass of a math book
- i) about the mass of a paper clip

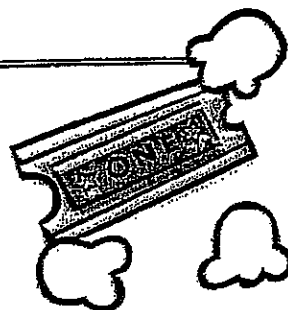
Metric conversions

- 171) 2,500 grams = _____ kilograms
- 172) 530 meters = _____ kilometers
- 173) 3,000 millimeters = _____ meters
- 174) 2,700 liters = _____ kiloliters
- 175) 5,800 centimeters = _____ meters
- 176) 3,400 milligrams = _____ grams
- 177) 4 kilometers = _____ meters
- 178) 2.3 kiloliters = _____ liters
- 179) 4.8 centimeters = _____ millimeters
- 180) 8 meters = _____ centimeters
- 181) 14 centimeters = _____ millimeters
- 182) 1.9 kilograms = _____ grams
- 183) 70 liters = _____ milliliters
- 184) 2.34 grams = _____ milligrams
- 185) 5.5 kilometers = _____ meters

Name _____ Date _____

CONCEPT ASSESSMENT- MULTIPLY DECIMALS

School dance tickets cost \$2.45 for 8th graders and \$3.15 for 7th graders. The cost of a ticket for 6th graders is 2.8 times the cost of the 8th graders' tickets.



A. What is the cost of a 6th grade ticket to the school dance?

B. Use what you know about multiplying decimals to explain why your answer is correct. Use words, numbers, and/or symbols in your explanation.

Name _____ Date _____

Original Grade:
Revised Grade:

This is an ECR. The highest score is a "3."

Ms. Walker put the following proportion on the board:

$$\frac{2}{5} = \frac{7}{15}$$

A. Is this statement true? *Write yes or no*

B.

- Use what you know about proportions to explain how you got your answer. You may use words, numbers, and/or symbols to support your answer.
- Suppose that you were told to edit the proportion so that it is true. What would you change to make the proportion correct? Use what you know about proportions to explain how you got your answer.

- General
- Specific
- Illustration/Work
- Vocabulary

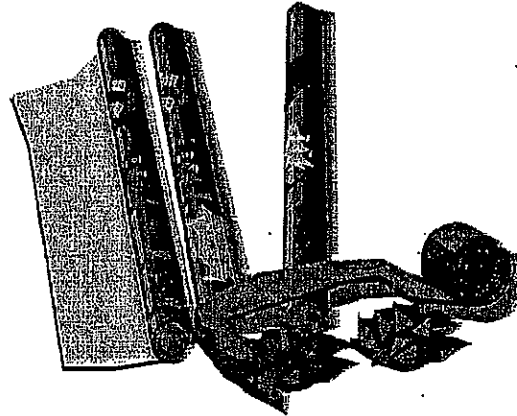
Name _____ Date _____

Original Grade:

Revised Grade

Carl used $1\frac{1}{2}$ yards of the wrapping paper. There was $2\frac{1}{12}$ yards of wrapping paper when he started.

B. How much of the wrapping paper remains on the roll?



B Use what you know about fractions to explain why your answer is correct. Use words, numbers, and/or symbols in your explanation.

RUBRIC

- General
- Specific
- Illustration/Work/Label
- Vocabulary

BCR: NUMBER RELATIONSHIPS: Fractions WTA 1

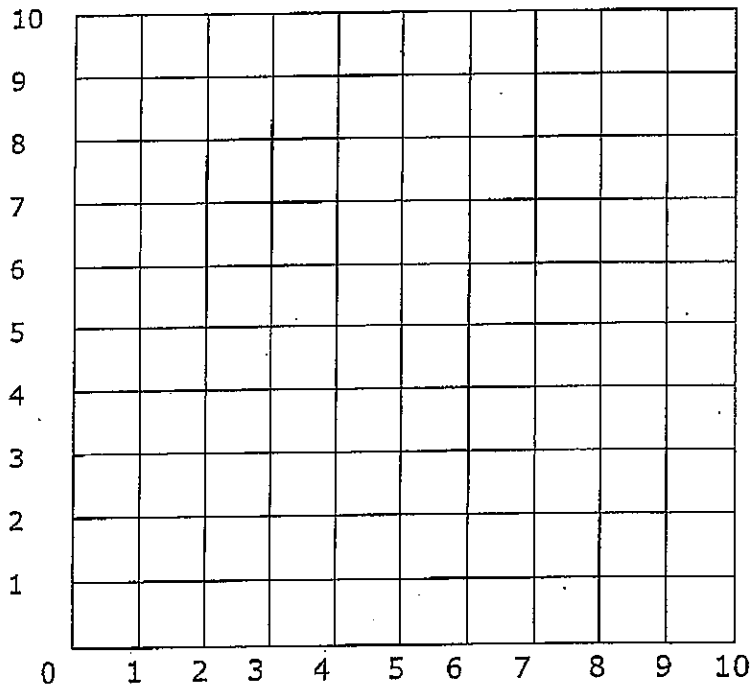
Concept Assessment – COORDINATE GRID

A. Plot and label the following ordered pairs on the coordinate grid.

$J = (3, 3)$

$K = (8, 3)$

$L = (8, 8)$



B. If point M was plotted at $(3, 8)$, what shape will be formed? Use what you know about coordinate grids to explain why your answer is correct. Use words, numbers, and/or symbols in your explanation.

Name _____ Date _____

Exploring Stem and Leaf Plots RA

Make a stem and leaf plot to show the number of students in the 6th grade.

Number of Students

185, 142, 162, 169, 173, 167, 175, 175, 181, 190,
190, 193, 195, 181, 167, 185, 193, 188, 175

1. The highest number of students _____
2. The lowest number of students _____
3. What is the range of students? _____
4. What is the most common amount of students? _____
What is the math vocabulary word that means the same? _____
5. How many schools have less than 160 students? _____
6. Half of the school have more than how many 6th grade students? _____
7. What is the median number students? _____
8. What is the difference between the median and the mode? _____

Concept Assessment – STEM AND LEAF

CANS OF FOOD COLLECTED BY FIFTH GRADERS

KEY

6 | 4 means 64 cans

1	1 2 7 7
2	2 4 4 4 6
3	0
4	2 9
5	2 8
6	0 3 4

A. A student collected 78 cans. Plot the number of cans the student collected on the stem and leaf plot.

B. Use what you know about stem and leaf plots to explain why your answer is correct. Use words, numbers, and/or symbols in your explanation.

Name _____

Date _____

Original Grade:

Revised Grade

An F-150 truck was loaded with 2.35 tons of gravel. All the pickup trucks that are F-150's weigh the same amount. Let T represent the weight of the F-150 pickup truck. $T + 2.35$

Part A

What is the total weight of the truck loaded with the gravel if $T = 2$ tons?

Part B

Use what you know about expressions to explain why your answer is correct. Use words, numbers, and/or symbols in your explanation.

- General
- Specific
- Illustration/Work

Name _____

Date _____

Original Grade:

Revised Grade

A BLSYW bus was loaded with 3.25 tons of make-up. All the buses that belong to BLSYW weigh the same amount. Let B represent the weight of the BLSYW bus. $B + 3.25$

Part A

What is the total weight of the BLSYW bus with the make-up if $B = 2$ tons?

Part B

Use what you know about expressions to explain why your answer is correct. Use words, numbers, and/or symbols in your explanation.

- General
- Specific
- Illustration/Wo

rk