

MATHEMATICS – 8th Grade
Activities and Assessments

Standard 1: Uses a variety of strategies in the problem-solving process.

Standard 9: Understands the general nature and uses of mathematics.

Problem Solving & Use of Mathematics

Answer Key:

1. 6 desserts
2. \$16.76
3. 9 packages
4. Answers may vary. Sample answer shown. About 70%.
5. 70 minutes
6. 75 inches
7. \$160
8. 38 students

Assessment:

7-8 Correct	High
5-6 Correct	Average
3-4 Correct	Low

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Standard 2: Understands and applies basic and advanced properties of the concepts of numbers.

Name: _____

Problems: CONCEPTS OF NUMBERS

1. Tell the place value of the underlined digit in the following numbers:

a.) $\underline{1}4.68$

b.) $-2.\underline{1}$

c.) $4.9\underline{8}7$

d.) $0.45\underline{6}$

2. Place the above numbers correctly on a number line.

3. Write in scientific notation: 4,700,000,000

4. Write, using a calculator, in standard form: 4^5

5. Draw and shade a circle for each value listed.

a.) 25%

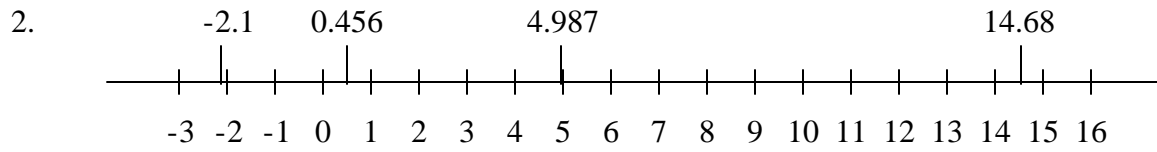
b.) 33 ? %

c.) $\frac{5}{6}$

d.) $\frac{5}{12}$

Answer Key:

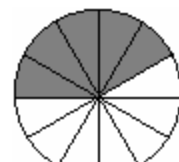
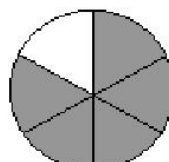
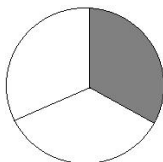
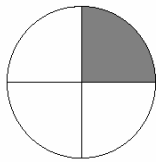
- 1. a.) tens
- b.) tenths
- c.) hundredths
- d.) thousandths



3. 4.7×10^9

4. 1,024

5. a.) b.) c.) d.)



Assessment:

12-14 Correct High
9-11 Correct Average
0-8 Correct Low

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Standard 3: Uses basic and advanced procedures while performing the process of computation.

Standard 8: Understands and applies basic and advanced properties of the concepts of function and algebra.

Standard 9: Understands the general nature and uses of mathematics.

Problems:

1. Find the sum or difference

a.) $-47 + -12 = \underline{\hspace{2cm}}$

b.) $+6 - -28 = \underline{\hspace{2cm}}$

c.) $-32 - -43 = \underline{\hspace{2cm}}$

d.) $+93 + -128 = \underline{\hspace{2cm}}$

e.) Make a list of ordered pairs using an x, y table and graph the equation $y = 2x$.

2. Show how you would use inverse operations to solve the following equations: (2 points each)

a.) $x + \frac{3}{4} = 2 \frac{7}{8}$

b.) $\frac{n}{1.2} = 4.8$

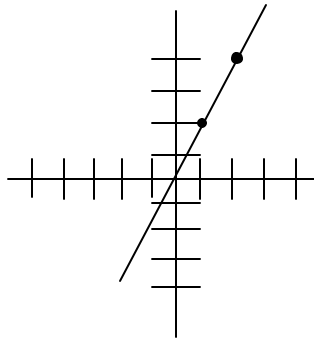
c.) $2n + 3 = 9$

Answer Key for #5 & #6:

1. a.) -59
 b.) +34
 c.) +11
 d.) -35

e.)

x	y
1	2
2	4
0	0



2. a.) $x + \frac{3}{4} = 2 \frac{7}{8}$
 $x + \frac{3}{4} - \frac{3}{4} = 2 \frac{7}{8} - \frac{3}{4}$
 $x = 2 \frac{1}{8}$

CHECK: $2 \frac{1}{8} + \frac{3}{4} = 2 \frac{7}{8}$

- b.) $\frac{n}{1.2} = 4.8$
 $\frac{n}{1.2} \cdot 1.2 = 4.8 \cdot 1.2$
 $n = 5.76$

CHECK $\frac{5.76}{1.2} = 4.8$

- c.) $2n + 3 = 9$
 $2n + 3 - 3 = 9 - 3$
 $2n = 6$
 $\frac{2n}{2} = \frac{6}{2}$
 $n = 3$

CHECK: $2(3) + 3 = 9$

Assessment:

85% - 100%	HIGH
70% - 84%	AVERAGE
0% - 69%	LOW

MATHEMATICS – 8th Grade

Activities and Assessments

Standard 4: Understands and applies basic and advanced properties of the concepts of measurement.

Standard 5: Understands and applies basic and advanced properties of the concepts of geometry.

Name: _____

Problems: GEOMETRY & MEASUREMENT

Draw a House Activity

Directions:

1. On a 12" x 18" piece of horizontal paper, you are to draw a symmetrical house that is 7" long and 8" high. Give the area of the house. (4 points)
2. Add a roof that is an isosceles triangle.
3. In the sky, put a sun with a radius of 3 cm.
4. The house needs 2 windows each which are 3.5 cm by 5.0 cm.
5. In the yard, put a doghouse that is in the shape of a trapezoid.
6. Draw a bird in the sky that has wings at a 110° angle.

Assessment:

Completes 7-9 items correctly is HIGH

Completes 4-6 items correctly is AVERAGE

Completes 0-3 items correctly is LOW

MATHEMATICS – 8th Grade

Activities and Assessments

Standard 6: Understands and applies basic and advanced properties of the concepts of statistics and data analysis.

Name: _____

Activity: Get a partner and take turns doing jumping jacks for 30 seconds. One person counts while other person jumps. Report data to teacher. After all data is collected using a calculator, find the mean, median and mode for the set of numbers. Construct a bar graph to show the comparison of findings for mean, median and mode.

Assessment:

Part I: Mean, Median & Mode

3 correct = 12 points

2 correct = 8 points

1 correct = 4 points

0 correct = 0 points

Sub-Total Points: _____

Bar Graph:

Part II: Based on answers from Part I, use the following Rubric: (Bar Graph)

Appropriate Number scale	1	2	3
Title	1	2	3
Labels (axis)	1	2	3
Info graphed accurately	1	2	3

Sub-Total Points: _____

TOTAL (Parts I & II) out of 24:

% Correct: _____

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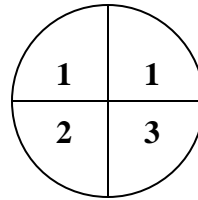
Standard 7: Understands and applies basic and advanced properties of the concepts of probability.

Standard 9: Understands the general nature and uses of mathematics

B. PROBABILITY AND USES OF MATH

- 1.) Outcomes of an experiment are always equally likely. True or False
- 2.) The probability of an event is always less than 1. True or False
- 3.) What is the sample space of flipping a coin 2 times?

- 4.) Using this spinner, what is probability of spinning
a 5?
a 1?
a 2?



- 5.) There are 12 men, 14 women and 9 children on a bus. Find the probability that the next person getting on is a woman?

- 6.) Calculate the probability of tossing heads on a coin, and rolling an odd number on a 6-sided die.

Answer Key

1. False
2. False
3. HH, HT, TH, TT
4. 0, $\frac{2}{4}$ or $\frac{1}{2}$, $\frac{1}{4}$ (3 points)
5. $\frac{14}{35}$
6. $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$

Assessment:

- 7-8 Correct High
4-6 Correct Average
0-3 Correct Low