Alaska

Comprehensive System of Student Assessment
Standards Based Assessments (SBA)

Mathematics Item Sampler

Grade 6

Alaska Department of Education & Early Development

INTRODUCTION

The Assessment Item Sampler is designed to help teachers assist students to do their best on the Alaska Comprehensive System of Student Assessment, Standards Based Assessments in grades 3 through 9. Data Recognition Corporation, the contractor designing the Standards Based Assessments, produced this item sampler from questions developed for Alaska.

The Standards Based Assessments are designed to estimate the degree to which students have mastered the Academic Performance Standards for reading, writing, and mathematics outlined in the Grade Level Expectations. These assessments are written specifically for Alaska and are the foundation of the Alaska school accountability system. Results are valuable for districts, schools, and students. Results are used to measure a school's Adequate Yearly Progress in accordance with No Child Left Behind. Additionally, these assessments, because they are consistent across grade levels, provide the ability to gauge students' academic progress. This test combined with other information from classroom and local assessments provides districts with valuable student performance data and degrees of mastery.

The Assessment Item Sampler was developed to give students and teachers a practical way to become familiar with the kinds of test questions that will appear on the Standards Based Assessments. The Assessment Item Sampler is in no way a predictor of the test taker's ability to perform on the actual Standards Based Assessments, nor are the questions the same as those on the actual test. The questions on the item sampler reflect the type of questions one might see on the actual assessment. The length of the item sampler does not reflect the amount of time it will take for a student to complete the actual Standards Based Assessments. The purpose of the sampler is to help teachers become familiar with the Standards Based Assessments and give them a tool to use with students as they prepare for the assessment.

Additional copies of the Assessment Item Sampler can be downloaded from the Alaska Department of Education & Early Development Web site by going to http://www.eed.state.ak.us/tls/assessment/sba.html.

Reporting Category: **Numeration**
Grade Level Expectation: **N-1**

1. A cubic inch of water weighs 0.036 pound. Which fraction is equal to the weight of a cubic inch of water?

   A $\frac{1}{360}$

   B $\frac{1}{36}$

   C $\frac{36}{1000}$

   D $\frac{36}{100}$

Reporting Category: **Measurement**
Grade Level Expectation: **MEA-2**

2. A scale showed a weight of 38 ounces. Which weight shown below is equal to 38 ounces?

   A 2 pounds, 6 ounces

   B 2 pounds, 8 ounces

   C 3 pounds, 2 ounces

   D 3 pounds, 8 ounces

Reporting Category: **Estimation & Computation**
Grade Level Expectation: **E&C-1**

3. Myra bicycled 3 days in a row.

   - She traveled 12.87 miles on the first day.
   - She traveled 19.04 miles on the second day.
   - She traveled 22.86 miles on the last day.

   What is Myra's total mileage rounded to the nearest tenth?

   A 50.0 miles

   B 55.0 miles

   C 54.6 miles

   D 54.8 miles

Reporting Category: **Functions & Relationships**
Grade Level Expectation: **F&R-1**

4. Leo noticed that the number series below followed a pattern.

   3, 9, 15, 21, ?

   What is the next number in the pattern?

   A 22

   B 24

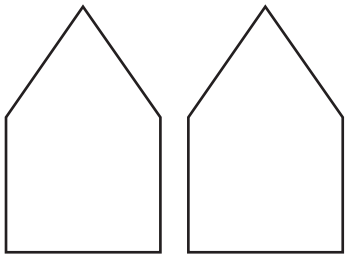
   C 27

   D 30

Reporting Category: **Geometry**
Grade Level Expectation: **G-5**

5. Which set of shapes is congruent?

A



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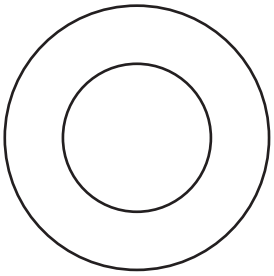

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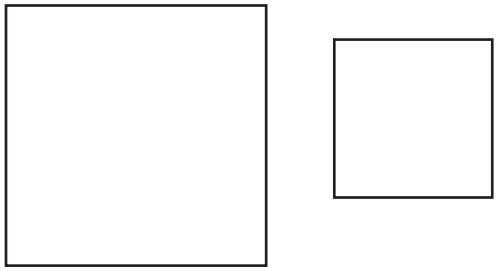

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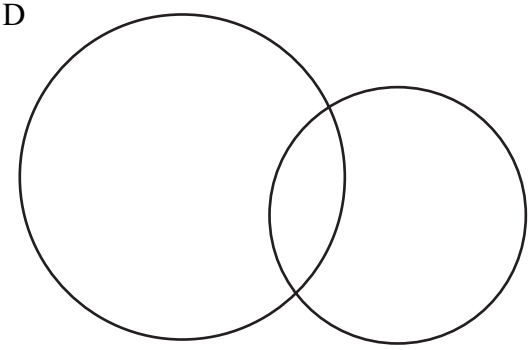


Reporting Category: **Statistics & Probability**
Grade Level Expectation: **S&P-1**

6. In a school fundraiser, each class recorded the amount of money they earned last week. Which type of graph would be most appropriate for displaying this information?

   A bar graph

   B circle graph

   C line graph

   D pictograph

Reporting Category: **Numeration**
Grade Level Expectation: **N-5**

7. For a party, all the pies were cut into sixths. After the party, 26 pieces were left. Which mixed number represents the total number of pies left?

A $3\frac{2}{6}$ pies

B 4 pies

C $4\frac{2}{6}$ pies

D 20 pies

Reporting Category: **Measurement**
Grade Level Expectation: **MEA-4**

8. Anthony was at work for 6 hours and 50 minutes. He arrived at work at 8:25 A.M. What time did Anthony leave work?

A 1:35 P.M.

B 2:15 P.M.

C 3:15 P.M.

D 3:35 P.M.

Reporting Category: **Estimation & Computation**
Grade Level Expectation: **E&C-3**

9. It snowed 4 times during October. The snowfall amounts were 0.75 inches, 1.93 inches, 4.73 inches, and 2.33 inches. What was the total snowfall for October?

   A 7.64 inches

   B 7.74 inches

   C 9.64 inches

   D 9.74 inches

Reporting Category: **Functions & Relationships**
Grade Level Expectation: **F&R-3**

10. Victoria wrote a story about a monster that doubles its weight every day. On the first day, the monster weighed 250 pounds. On what day did the monster first weigh 4,000 pounds?

    A day 4

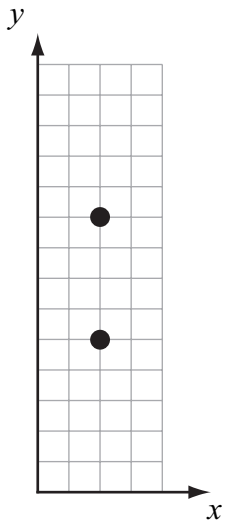
    B day 5

    C day 6

    D day 8

Reporting Category: **Geometry**
Grade Level Expectation: **G-10**

11. There are 2 restaurants in River City located at map points (2, 5) and (2, 9).



Ben is building a new restaurant located halfway between the existing restaurants. What is the location of Ben's restaurant?

A (2, 13)

B (2, 7)

C (2, 4)

D (2, 1)

Reporting Category: **Statistics & Probability**
Grade Level Expectation: **S&P-3**

12. The table below shows approximate flight times between Petersburg and other cities.

Flight Times from Petersburg

To	Time (in minutes)
Anchorage	170
Seattle	150
Ketchikan	45
Juneau	30
Sitka	35

What is the mean flight time?

A 45 minutes

B 86 minutes

C 140 minutes

D 170 minutes

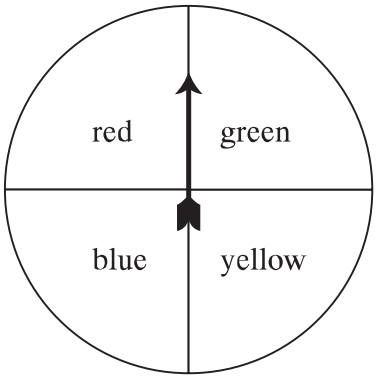
Reporting Category: **Numeration**
Grade Level Expectation: **N-9**
Short Constructed Response (2 points)

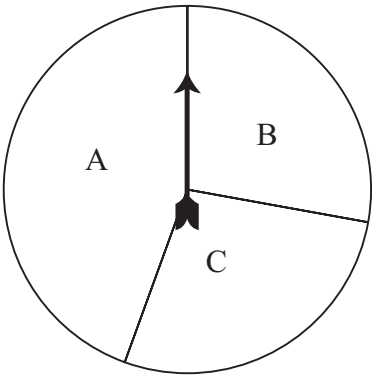
13. A company wants to make 2 different packages of markers. Each package should contain a different number of markers. The number of markers in each package should be evenly divisible by 3, 5, and 9. What number of markers could be placed in each package? Show all of your work or explain your thinking even if you use mental math.

Answer: _____

Reporting Category: **Statistics & Probability**
Grade Level Expectation: **S&P-5**
Extended Constructed Response (4 points)

14. A player will spin each pointer 1 time while playing a game.





A. List all the possible outcomes of 1 color and 1 letter.

B. Explain why all of the possible outcomes are not equally likely.

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