**Weekly slip Problem—Example 1**

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Due: sample answer1**

The Four-Digit Numeral Mystery:

\*The four-digit numeral 3AA1 is divisible by 9. What digit does A represent?

1.(20) List **specific information** given in the problem.

* Four digit number: 3AA1
* Divisible by 9
* I must find what the digit A is for both place values

2.(10) What is the **problem solving strategy** you are going to use?

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| **Problem Solving Strategies** | Guess and Check | Solve a Simpler Problem |
| Make a Table  | Find a Pattern | Make a List |
| Work Backwards | Act Out the Problem | Change Your View |
| Draw a Picture | Write an Equation | Experiment |

3. (10) **Predict** what your answer will be.

I know that A must be a digit from 0 to 9. I predict that A will be equal to the digit 2.

4. (20) **Show how** you solved the problem.

A=2?

3221 ÷ 9 = 357 R. 8 ( be sure to show actual division work)

2 did NOT work

A=3?

3331 ÷ 9 = 370 R 1

3 did NOT work

A= 7?

3771 ÷ 9 = 419 no remainder = divisible by 9!!

5. (15) Write your answer in a **complete sentence, restating the question**.

The digit A represents the digit 7 because 3,771 is divisible by 9.

6. (25) Using complete sentences, **explain how you solved the problem, and why** you took the steps you did.

I chose to use the math problem solving strategy: Guess and Check. I knew that the digit A would be the same number in both place values. Next, I thought about which possible digits it could be. Since the letter A only takes one place value I knew I could only use the digits 0 through 9. Therefore, I thought guess and check would be the best method to choose. First, I guessed A equals 2 and placed the digit 2 to represent A. I divided by 9, but had a remainder of 8. For a number to be divisible by another number it cannot have a remainder. Next, I guessed A equals 3 and placed the digit 3 to represent A. I divided by 9, but had a remainder of 1. I decided to try a higher number next. I guessed A equals 7 and placed the digit 7 to represent A. I divided by 9. As a result, my quotient was 419 with no remainder. Therefore, I knew that the digit A represented the digit 7 because the number 3,771 is divisible by 9.

Total\_\_\_\_\_\_/100\_\_\_

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| **Grading Criteria**Does the student: | \*Understand the Problem | \*Choose Workable Strategies |
| \*Make Connections | \*Explain Solutions  | \*Use Math Language & Representation |

**Example of expectations**

**Weekly slip Problem—Example 2**

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Due: sample answer 2**

Girls and Boys:

\*There were 7 people at a party. Each boy ate 5 cookies and each girl ate 4 cookies. If 32 cookies were eaten, how many boys were at the party?

1.(20) List **specific information** given in the problem.

* 7 people at party
* Boys eat 5 cookies, Girls eat 4 cookies
* 32 cookies total

2.(10) What is the **problem solving strategy** you are going to use?

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| **Problem Solving Strategies** | Guess and Check | Solve a Simpler Problem |
| Make a Table  | Find a Pattern | Make a List |
| Work Backwards | Act Out the Problem | Change Your View |
| Draw a Picture | Write an Equation | Experiment |

3. (10) **Predict** what your answer will be.

Since there are 7 people at the party total, I predict that 3 of them are boys.

(It is OKAY if the prediction does NOT match the answer!! It will NOT be counted wrong)

4. (20) **Show how** you solved the problem.

Using my prediction:

--3 boys x 5 cookies each = 15 cookies + 4 girls x 4 cookies each = 16; 15 + 16 = 31 cookies…..Close but not close enough, Now I will try 2 boys

--2 boys x 5 cookies = 10 cookies plus 5 girls x 4 cookies = 20; 10 + 20 = 30…Maybe I should lower the number of girls instead?

--4 boys x 5 cookies = 20 cookies plus 3 girls x 4 cookies each = 12; 20 + 12 = 32 cookies total!!! Found my answer!!

5. (15) Write your answer in a **complete sentence, restating the question**.

The question is: If 32 cookies were eaten, how many boys were at the party? So my complete sentence should be:

Since 32 cookies were eaten, there were 4 boys at the party.

6. (25) Using complete sentences, **explain how you solved the problem, and why** you took the steps you did.

I chose to use the math problem solving strategy: Act out the problem. I knew that there were 7 people at the party. I predicted that 3 were boys. I multipled 3 boys times 5 cookies each, and 4 girls times 4 cookies each. My answer was close, but not correct. I decided to take away 1 boy and try my math for 2 boys attending the party. Then, I multiplied 2 boys times 5 cookies each, and 5 girls times 4 cookies each. I noticed that my number continued to decrease. I knew that instead of making the number of boys at the party smaller, I needed to make the number of girls at the party smaller. I decided to go back to my first scenario and try 4 boys x 5 cookies each, and 3 girls x 4 cookies each. With that, I came up were the total of 32 cookies eaten. Therefore, I thought acting out the problem, or similarly the guess and check strategy would be the best method to choose. I reviewed my math and the problem to make sure I correctly solved the problem.

Total\_\_\_\_\_\_/100\_\_\_

|  |  |  |
| --- | --- | --- |
| **Grading Criteria**Does the student: | \*Understand the Problem | \*Choose Workable Strategies |
| \*Make Connections | \*Explain Solutions  | \*Use Math Language & Representation |

**Example of expectations**