

The “Write” Way: Mathematics Journal Prompts for Grades 7–8

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Sample Journal Prompts

Content Prompts

Number and Operations

Darron’s calculator is broken. It doesn’t always put the decimal point in the right place. So, he has difficulty deciding if a problem is correct. He multiplied 43.7892×2.01605 . His calculator showed a product of 8.8281216. Do you agree? Why or why not?

Disagree because an estimate of the product is closer to 88. Some students may show you how to solve the problem with the multiplication algorithm. Expect more justification than merely counting the decimal places.

Lehua said, “There are many prime numbers. And, I know if we keep looking for prime numbers, we can find one that is even and larger than 111.” Jonathan replied, “That can never be possible.” Who do you agree with? Justify your choice.

An even number after 2 has at least 2 as a factor. Therefore, those numbers cannot be prime. Therefore, agree with Jonathan.

Patterns and Algebra

When I add two integers, I can tell when the sign of the sum will be negative if . . . Support your response with examples.

Many students will mention that the addend with the largest absolute value determines the sum's sign.

Measurement

Write a letter to a sixth-grader describing the difference between perimeter and area.

Students should note the one dimensionality of perimeter in some way as compared to the two dimensions of area. They may discuss the distance around a shape for perimeter and the amount of space contained within the boundaries of a shape for area. Watch for responses incorrectly referring to three-dimensional shapes.

Geometry

Leilani cut apart a hexagonal pyramid. She cut only on the edges. What shapes would she have? Justify your answer with a drawing or a written explanation.

Students should indicate that she would have a hexagon and six triangles.

Data Analysis and Probability

“The probability is $\frac{3}{4}$ that I will draw a blue block out of the bag,” said Elise. Does that mean there are no red blocks in the bag? What do you think? Explain your thinking.

Answers will vary. Some students will say you cannot tell how many red blocks there are in the bag. But you know that there are a lot of blue blocks compared to the number of other colored blocks. To extend this prompt, ask students to tell you what could be in the bag. Test the students' suggestions.

Process Prompts

Tiana said, “I worked a problem but I can’t tell if my answer is reasonable.” What would you tell Tiana to do if her problem involved multiplication?

Students should give a mathematically appropriate way for determining reasonableness of products. This can include the number of digits in the product. You can change the prompt by substituting division, addition, or subtraction for multiplication.

Affective/Attitudinal Prompts

Draw a picture of a mathematician on a typical workday. Describe the work a mathematician does.

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