

Lesson 10 Practice Problems

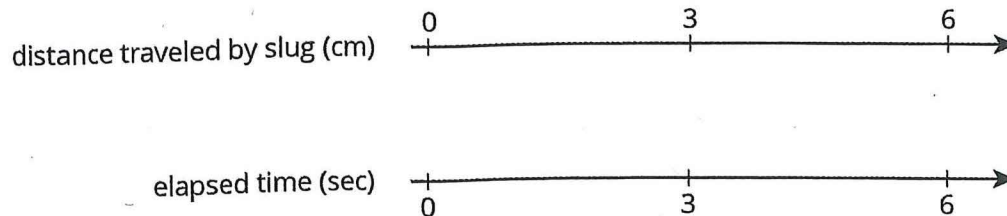
Problem 1

A slug travels 3 centimeters in 3 seconds. A snail travels 6 centimeters in 6 seconds. Both travel at constant speeds. Mai says, "The snail was traveling faster because it went a greater distance." Do you agree with Mai? Explain or show your reasoning.

Possible Solutions

Answers vary. Sample responses:

- I disagree. The slug and the snail are both traveling 1 centimeter per second. They are traveling at the same speed.
- I disagree. The double number line for the slug shows that in 6 seconds it also travels 6 centimeters.



Problem 2

If you blend 2 scoops of chocolate ice cream with 1 cup of milk, you get a milkshake with a stronger chocolate flavor than if you blended 3 scoops of chocolate ice cream with 2 cups of milk. Explain or show why.

Possible Solutions

Answers vary. Sample responses:

- 3 scoops of chocolate ice cream with 2 cups of milk is 1.5 scoops of chocolate ice cream per cup of milk. This is less chocolate ice cream per cup of milk than in the first mixture (2 scoops of chocolate ice cream per cup of milk), so the first mixture has stronger chocolate flavor.
- 2 scoops of chocolate ice cream with 1 cup of milk will taste the same as 4 scoops of chocolate ice cream with 2 cups of milk. This mixture has an extra scoop of chocolate ice cream so will taste more chocolaty than 3 scoops of chocolate ice cream and 2 cups of milk.

Problem 3

There are 2 mixtures of light purple paint.

- Mixture A is made with 5 cups of purple paint and 2 cups of white paint.
- Mixture B is made with 15 cups of purple paint and 8 cups of white paint.

Which mixture is a lighter shade of purple? Explain your reasoning.

Possible Solutions

Mixture B is lighter. Explanations vary. Sample responses:

- Mixture A contains 2.5 cups of purple paint per cup of white paint. Mixture B contains only 1.875 cups of purple paint per cup of white paint. Less purple paint for the same amount of white paint will result in a lighter shade of purple.
- The ratio of purple paint to white paint in Mixture A is 5 : 2. The ratio of purple paint to white paint in Mixture B is 15 : 8. The amount of purple paint in Mixture B is 3 times the amount of Mixture A, but the amount of white paint in B is 4 times the amount of A.

Problem 4

Tulip bulbs are on sale at store A, at 5 for \$11.00, and the regular price at store B is 6 for \$13. Is each store pricing tulip bulbs at the same rate? Explain how you know.

Possible Solutions

No. Explanations vary. Sample response: At store A, 30 bulbs would cost \$66, but at store B, 30 bulbs would cost \$65.

Problem 5

From Grade 6, Unit 2, Lesson 9

A plane travels at a constant speed. It takes 6 hours to travel 3,360 miles.

- What is the plane's speed in miles per hour?
- At this rate, how many miles can it travel in 10 hours?

Possible Solutions

- 560 because $3,360 \div 6 = 560$.
- In 10 hours, it can travel 5,600 miles because $10 \cdot 560 = 5,600$.

