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Unit 5, Lesson 12: Negative Rates

1.
 - a. A cookie recipe uses 3 cups of flour to make 15 cookies. How many cookies can you make with this recipe with 4 cups of flour? (Assume you have enough of the other ingredients.)

 - b. A teacher uses 36 centimeters of tape to hang up 9 student projects. At that rate, how much tape would the teacher need to hang up 10 student projects?

(from Unit 4, Lesson 3)

2. Evaluate each expression. When the answer is not a whole number, write your answer as a fraction.

a. $-4 \cdot -6$

b. $-24 \cdot \frac{-7}{6}$

c. $4 \div -6$

d. $\frac{4}{3} \div -24$

(from Unit 5, Lesson 11)

3. Some boats were traveling up and down a river. A satellite recorded the movements of several boats.
 - a. A motor boat traveled -3.4 miles per hour for 0.75 hours. How far did it go?

 - b. A tugboat traveled -1.5 miles in 0.3 hours. What was its velocity?

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- c. What do you think that negative distances and velocities could mean in this situation?
4. Describe a situation where each of the following quantities might be useful.
- a. -20 gallons per hour
 - b. -10 feet per minute
 - c. -0.1 kilograms per second
5. A submarine is only allowed to change its depth by rising toward the surface in 60-meter stages. It starts off at -340 meters.
- a. At what depth is it after:
 - i. 1 stage
 - ii. 2 stages
 - iii. 4 stages
 - b. How many stages will it take to return to the surface?