

NAME

DATE

PERIOD

## Unit 5, Lesson 13: Expressions with Rational Numbers

1.
  - a. A coffee maker's directions say to use 2 tablespoons of ground coffee for every 6 ounces of water. How much coffee should you use for 33 ounces of water?
  
  
  
  
  
  
  
  
  
  
  - b. A runner is running a 10 km race. It takes her 17.5 minutes to reach the 2.5 km mark. At that rate, how long will it take her to run the whole race?

(from Unit 4, Lesson 3)

2. The price of an ice cream cone is \$3.25, but it costs \$3.51 with tax. What is the sales tax rate?

(from Unit 4, Lesson 10)

3. Find the value of each expression.

a.  $-22 + 5$

b.  $-22 - (-5)$

c.  $(-22)(-5)$

d.  $(-22) \div 5$

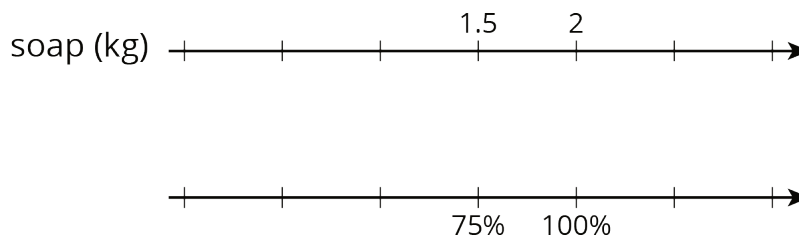
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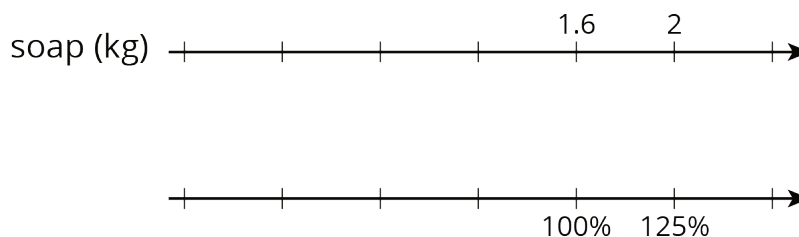
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4. Two students are both working on the same problem: A box of laundry soap has 25% more soap in its new box. The new box holds 2 kg. How much soap did the old box hold?

◦ Here is how Jada set up her double number line.



◦ Here is how Lin set up her double number line.



Do you agree with either of them? Explain or show your reasoning.

(from Unit 4, Lesson 7)

5. The value of  $x$  is  $\frac{-1}{4}$ . Order these expressions from least to greatest:

$x$                                        $1 - x$                                        $x - 1$                                        $-1 \div x$

6. Here are four expressions that have the value  $\frac{-1}{2}$ :

$\frac{-1}{4} + (\frac{-1}{4})$                                        $\frac{1}{2} - 1$                                        $-2 \cdot \frac{1}{4}$                                        $-1 \div 2$

Write five expressions: a sum, a difference, a product, a quotient, and one that involves at least two operations that have the value  $\frac{-3}{4}$ .