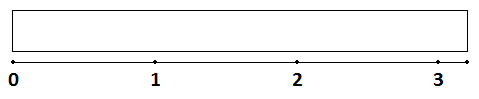
6.NS.A

Apply and extend previous understandings of multiplication and division to divide fractions by fractions.

1. The equation shows an unknown number.  
     
   □   
     
   Write a fraction that makes the equation true.
2. The length of the rectangle is 3 units.



*a.* Use the rectangle to model 3 divided by .

*b.* Use the model to determine the value of the expression 3 .

1. Which statement describes the quotient of and provides correct reasoning?

A. The quotient is less than because division always results in a number less than the dividend.

B. The quotient is less than because the divisor is a fraction greater than 1.

C. The quotient is greater than because dividing by a fraction always results in a number greater than the dividend.

D. The quotient is greater than because the divisor is a fraction greater than 1.

6.NS.A

Apply and extend previous understandings of multiplication and division to divide fractions by fractions.

1. Mr. Howard is making a homemade bubble mixture. The mixture requires the following ingredients:

* cup of dishwashing soap
* 4 cup of water
* 4 tablespoons of glycerin

[1 tablespoon = cup]

[1 ounce = cup]  
  
He has an 18-ounce bottle of dishwashing soap and a 4-ounce bottle of glycerin. How many batches of homemade bubbles can Mr. Howard make?

1. The equation shows an unknown number.  
     
    4 □ =   
     
   Write a fraction that makes the equation true.
2. Kenneth is selling lemonade. Each pitcher of lemonade has 1 cups of sugar. Kenneth has one bag of sugar which holds about 11 cups of sugar.

*a.* How many full pitchers of lemonade can Kenneth make from one bag of sugar?

*b.* About how many cups of sugar will be left over after Kenneth has made the number of pitchers of lemonade you determined in Part *a*?

1. Write a story problem that can be solved by dividing 14 by .

**Teacher Material**

6.NS.A

Apply and extend previous understandings of multiplication and division to divide fractions by fractions.

| **Question** | **Claim** | **Key/Suggested Rubric** |
| --- | --- | --- |
| 1[[1]](#footnote-1) | 1 | **1 point:**, or equivalent |
| 2[[2]](#footnote-2) | 1 | **2 points:** Divides the rectangle into 4 roughly equivalent sections and labels each “” AND 4  **1 point:** Divides the rectangle into 4 roughly equivalent sections OR 4 |
| 32 | 3 | **1 point:** Selects B |
| 42 | 4 | **1 point**: 2 batches |
| 51 | 1 | **1 point:**, or equivalent |
| 6[[3]](#footnote-3) | 2 | **2 points:** 6 pitchers AND cups, or equivalent  **1 point:** 6 pitchers OR cups, or equivalent |
| 7[[4]](#footnote-4) | 4 | **1 point:** Answers will vary. Example: Brian has a rope that is 14 feet long. He cuts the rope into -foot lengths. How many -foot lengths of rope does Brian make? |

1. From Smarterbalanced.org. Grade 6, Claim 1, Target B Item Specifications. Internet. Available from <http://www.smarterbalanced.org/smarter-balanced-assessments/>; accessed 11/2015. [↑](#footnote-ref-1)
2. Adapted from the Mathematics K–12 Learning Standards. Internet. Available from <http://www.k12.wa.us/Mathematics/Standards.aspx>; accessed 11/2015. [↑](#footnote-ref-2)
3. Adapted from Smarterbalanced.org. Grades 6–8, Claim 2 Item Specifications. Internet. Available from <http://www.smarterbalanced.org/smarter-balanced-assessments/>; accessed 11/2015. [↑](#footnote-ref-3)
4. Adapted from Smarterbalanced.org. Grades 6–8, Claim 4 Item Specifications. Internet. Available from <http://www.smarterbalanced.org/smarter-balanced-assessments/>; accessed 11/2015. [↑](#footnote-ref-4)