4.NF.B

Build fractions from unit fractions by applying and extending previous understandings of operations.

1. Decide whether each expression is equal to 1$ \frac{5}{8}$. Put a check in the correct columns in the table.

|  | **Equal to** $1 \frac{5}{8}$ | **Not equal to** $1 \frac{5}{8}$ |
| --- | --- | --- |
| $$1+ \frac{5}{8}$$ |  |  |
| $$\frac{8}{8}+ \frac{3}{8}+ \frac{2}{8}$$ |  |  |
| $$1+ \frac{3}{8}+ \frac{1}{8}+ \frac{2}{8}$$ |  |  |

2. A baker has 3$\frac{3}{4}$ cups of sugar. She has 2$\frac{1}{4}$ more cups of sugar than cups of flour. How many cups of flour does she have?

3. Tameka ran 2$\frac{5}{8}$ miles. Her sister ran twice as far. Tameka said her sister ran 4$\frac{5}{8}$ miles. Do you agree with Tameka? Justify your reasoning using numbers and words.

4. Decide whether each expression is equal to 5 × $\frac{2}{4}$. Put a check in the correct columns in the table.

|  | **Equal to** $5 × \frac{2}{4}$ | **Not equal to** $5 × \frac{2}{4}$ |
| --- | --- | --- |
| $$2 × \frac{1}{20}$$ |  |  |
| $$4 × \frac{2}{5}$$ |  |  |
| $$10 × \frac{1}{4}$$ |  |  |

5. Draw and shade a tape diagram for the fraction $\frac{7}{8}$. Record the decomposition of the fraction $\frac{7}{8} $in three different ways using equations.

6. Rocky, the collie, ate 3$\frac{1}{4}$ cups of dog food each day for two weeks. How much dog food did Rocky eat in that time?

**Teacher Material**

4.NF.B

Build fractions from unit fractions by applying and extending previous understandings of operations.

| **Question** | **Claim** | **Key/Suggested Rubric** |
| --- | --- | --- |
| 1[[1]](#footnote-1) | 1 | **1 point:** Equal Equal Not equal |
| 21 | 1 | **1 point:** 3$\frac{3}{4}$ - 2$\frac{1}{4}$ = 1$\frac{2}{4}$ |
| 3[[2]](#footnote-2) | 3 | **1 point:** I don’t agree with Tameka. In order to have run twice as far, Tameka would have to multiply both the fraction of her time and the whole number of her time by 2. She only dealt with the whole number. She should have taken 2$\frac{5}{8}$ x 2 = ( 2 + $\frac{5}{8} $) x 2 = 2 x 2 + 2($\frac{5}{8}$) = 4 + $\frac{10}{8}$ = 4$\frac{10}{8}$ or 5$\frac{2}{8}$. |
| 41 | 1 | **1 point:** Not equalNot equalEqual |
| 5[[3]](#footnote-3) | 4 | **2 points:** Draws a tape diagram AND decomposes $\frac{7}{8}$ in 3 different ways

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |

 $\frac{2}{8}$ + $\frac{3}{8}+ \frac{2}{8} $ = $\frac{7}{8}$ OR $\frac{1}{8} $ + $\frac{6}{8}$ = $\frac{7}{8}$ OR $\frac{4}{8}$ + $\frac{2}{8}$ + $\frac{1}{8}$ = $\frac{7}{8}$(There are more possibilities.)**1 point:** Draws a tape diagram OR decomposes $\frac{7}{8}$ in 3 different ways |
| 6[[4]](#footnote-4) | 2 | **1 point:** There are 7 days in a week so in 2 weeks there are 14 days.3$\frac{1}{4}$ x 14 = 3 x 14 + $\frac{1}{4}$(14) = 42 + $\frac{14}{4}$ = 42 + 3$\frac{2}{4}$ = 45$\frac{2}{4}$ cups of food |

1. From Smarterbalanced.org. Grade 4, Claim 1, Target G Item Specifications. Internet. Available from <http://www.smarterbalanced.org/smarter-balanced-assessments/>; accessed 11/2015. [↑](#footnote-ref-1)
2. From EngageNY.org of the New York State Education Department. Grade 4 Mathematics Module 5, Topic G, Lesson 39. Internet. Available from <https://www.engageny.org/resource/grade-4-mathematics-module-5-topic-g-lesson-39>; accessed 11/2015. [↑](#footnote-ref-2)
3. From EngageNY.org of the New York State Education Department. Grade 4 Mathematics Module 5, Topic A, Lesson 2. Internet. Available from <https://www.engageny.org/resource/grade-4-mathematics-module-5-topic-lesson-2>; accessed 11/2015. [↑](#footnote-ref-3)
4. From EngageNY.org of the New York State Education Department. Grade 4 Mathematics Module 5, Topic G, Lesson 38. Internet. Available from <https://www.engageny.org/resource/grade-4-mathematics-module-5-topic-g-lesson-38>; accessed 11/2015. [↑](#footnote-ref-4)