

SECURE MATERIAL – Reader Name: \_\_\_\_\_  
Tennessee Comprehensive Assessment Program

# TCAP/CRA

## 2014



# 3

## Phase II

## Fractions Task

## Anchor Set

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## Part 2: Constructed Response Task Section

### Fractions Task

Figure 1



- a. Write a fraction that tells what portion of Figure 1 is shaded. The fraction should tell about the four pieces and the part that is shaded.



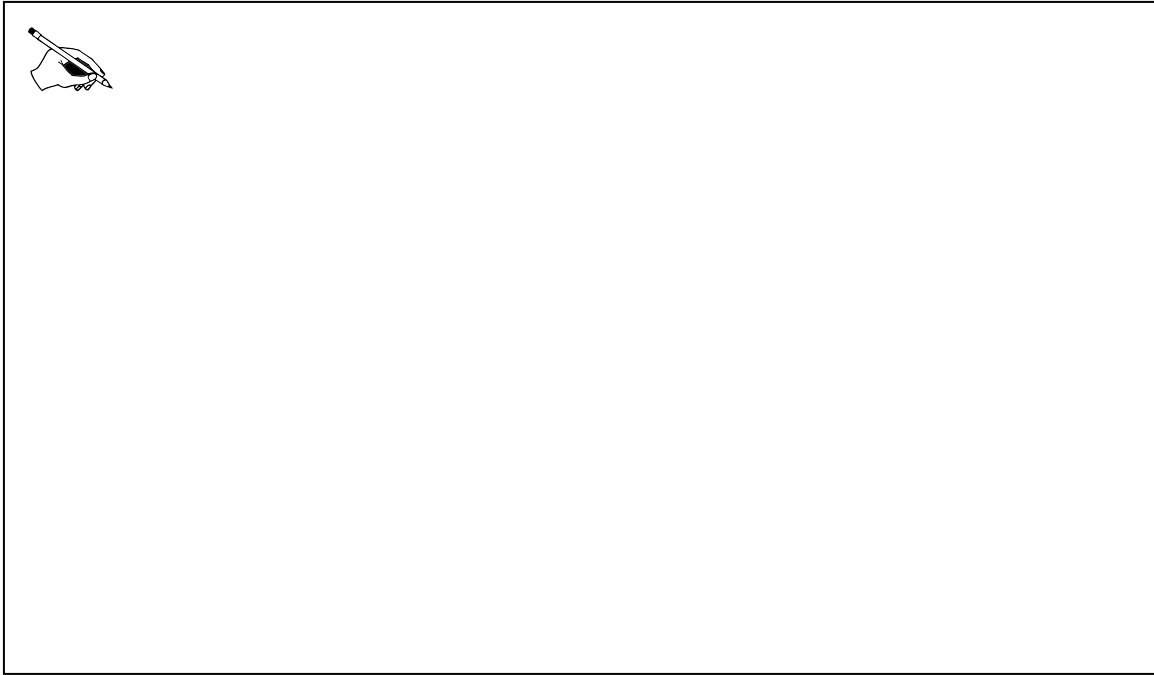
Write another fraction with a different denominator and numerator that tells the portion of Figure 1 that is shaded.



## Part 2: Constructed Response Task Section

### Fractions Task

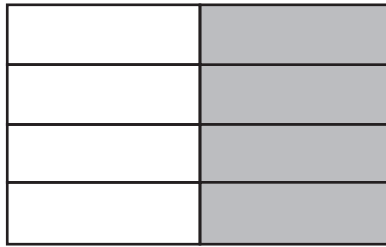
- b. Explain why the shaded portion of Figure 1 can be written as both the first and the second fraction that you wrote in part a.




## Part 2: Constructed Response Task Section

### Fractions Task

Figure 2




- c. Write a fraction that tells what portion of Figure 2 is shaded. The fraction should tell about the eight pieces and the part that is shaded.



A large rectangular box for writing the answer to question c.

Write another fraction with a different denominator and numerator that tells the portion of Figure 2 that is shaded.



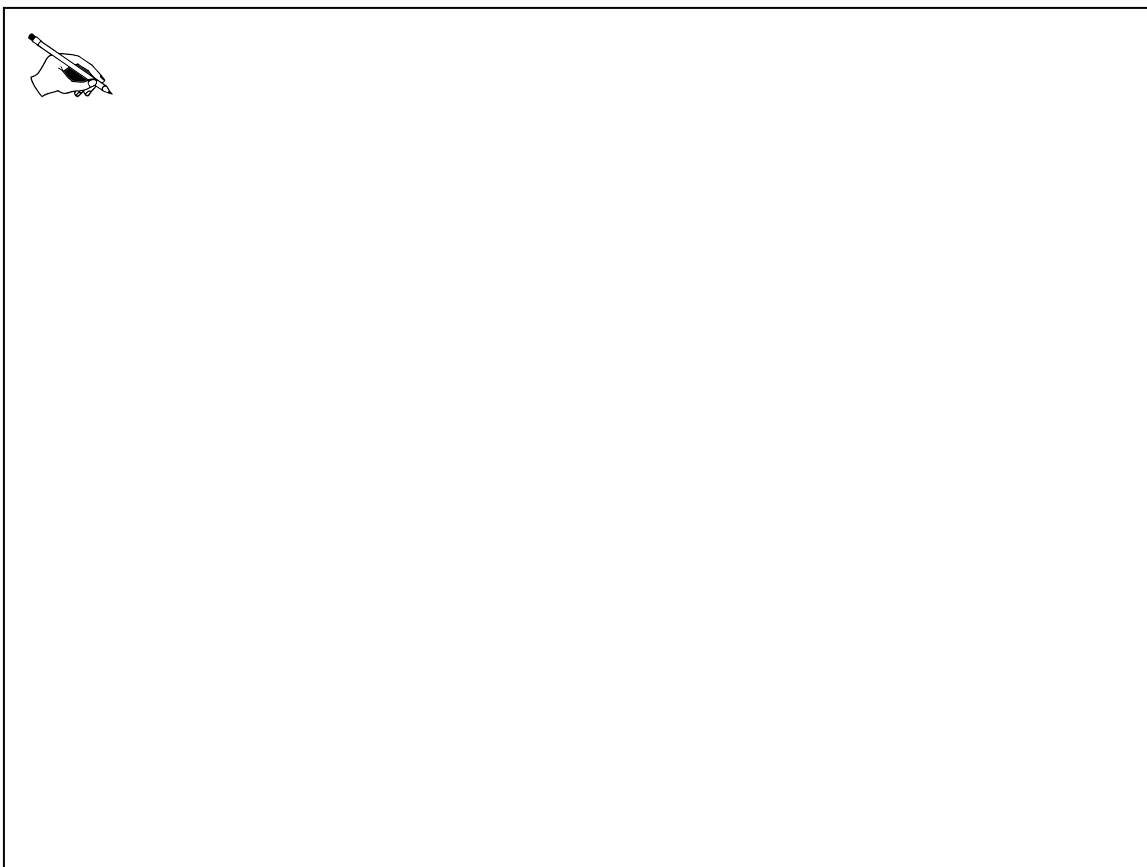
A large rectangular box for writing the answer to the second part of question c.



## Part 2: Constructed Response Task Section

### Fractions Task

- d. Explain why the shaded portion of Figure 2 can be written as both the first and second fraction that you wrote in part c.



- e. Write four fractions that are equivalent to  $\frac{1}{2}$ .

\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_



## Scoring Guide

### The CCSS for Mathematical Content (2 points)

3.NF.A.1 Writes at least two accurate fractions, including  $\frac{2}{4}$  for Figure 1 in part a \_\_\_\_\_  
and  $\frac{4}{8}$  for Figure 2 in part c.

**(1 Point)**

3.NF.A.3b Writes  $\frac{1}{2}, \frac{2}{4}, \frac{3}{6}, \frac{4}{8}, \frac{5}{10}$  or some other fraction equivalent to  $\frac{1}{2}$  in part e. \_\_\_\_\_  
Four equivalent fractions must be named. (Two fractions may be from part a or b, or all four fractions may be new equivalences of  $\frac{1}{2}$ .)

**(1 Point)**

### The CCSS for Mathematical Practice (2 points)

MP3 States in part b or part d the reason why two different fractions can be written to name the same shaded part of a figure. The student may do this by: \_\_\_\_\_

- stating that the same part of the figure is shaded, but the number of pieces that make up the parts changes;
- stating that the figure can be divided in half once or twice, or each half into four equal parts, and then because there are two halves each with four, there are eight equal parts (or any other similar partitioning); or
- stating that the number of shaded parts was doubled and therefore the total number of parts was also doubled (part b); or the number of shaded parts was partitioned into four and therefore, in order to include the two halves, each being partitioned into four, a total of eight equal pieces will be created, (or any other similar partitioning);
- using words and/or diagrams to explain why both fractions describe the shaded portion of the figure.

**(1 Point)**

(MP3: Construct viable arguments and critique the reasoning of others.)

MP6 Uses precise language and/or diagrams in the explanation. The student provides more information than simply referring to the denominator and numerator. The student may name the denominator and numerator, refer to the total number of equal parts as the denominator, name the size of the equal parts the denominator, or describe the shaded part of the whole as the numerator. \_\_\_\_\_

**(1 Point)**

(MP6: Attend to precision.)

**TOTAL POINTS: 4**

## The CCSS for Mathematical Content Addressed In This Task

### Develop understanding of fractions as numbers.

- |           |  |
|-----------|--|
| 3.NF.A.1  | Understand a fraction $1/b$ as the quantity formed by 1 part when a whole is partitioned into $b$ equal parts; understand a fraction $a/b$ as the quantity formed by $a$ parts of size $1/b$ . |
| 3.NF.A.3b | Recognize and generate simple equivalent fractions, e.g., $1/2 = 2/4$ , $4/6 = 2/3$ . Explain why the fractions are equivalent, e.g., by using a visual fraction model.                        |

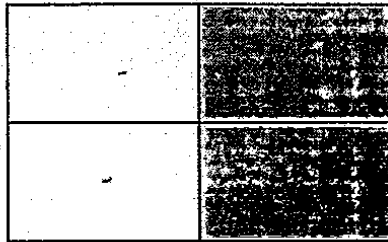
### The CCSS for Mathematical Practice\*

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.


\* Gray type indicates Mathematical Practices not addressed in this assessment.

## Fractions Task

Figure 1

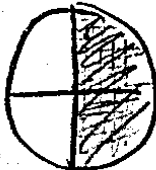


- a. Write a fraction that tells what portion of Figure 1 is shaded. The fraction should tell about the four pieces and the part that is shaded.




$$\frac{2}{4}$$

← numerator  
← denominator



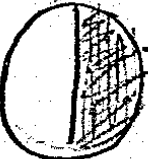
2 ← numerator  
4 ← denominator

Write another fraction with a different denominator and numerator that tells the portion of Figure 1 that is shaded.



$$\frac{1}{2}$$

← numerator  
← denominator




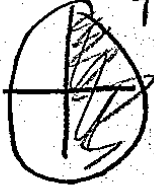

1 ← numerator  
2 ← denominator



## Fractions Task

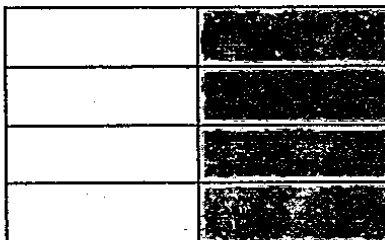
- b. Explain why the shaded portion of Figure 1 can be written as both the first and the second fraction that you wrote in part a.

 Because, Figure one is two fourths and the second fraction I wrote was one half and one half is equivalent to the other fraction.



 two fourths  $\frac{2}{4}$  =  one half  $\frac{1}{2}$

## Fractions Task


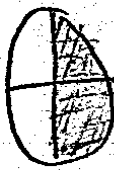
Figure 2



- c. Write a fraction that tells what portion of Figure 2 is shaded. The fraction should tell about the eight pieces and the part that is shaded.


  $\frac{4}{8}$  numerator  
8 denominator   $\frac{4}{8}$  numerator  
8 denominator

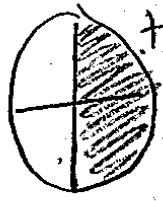
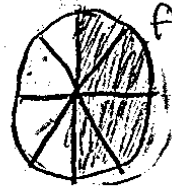
Write another fraction with a different denominator and numerator that tells the portion of Figure 2 that is shaded.

  $\frac{2}{4}$  numerator  
4 denominator   $\frac{2}{4}$  numerator  
4 denominator

## Fractions Task

- d. Explain why the shaded portion of Figure 2 can be written as both the first and second fraction that you wrote in part c.

 Because the first fraction I did was four eighths and the second one I did was two fourths and two fourths is equivalent to four eighths.

  $\frac{2}{4}$  =   $\frac{4}{8}$

- e. Write four fractions that are equivalent to  $\frac{1}{2}$ .

$\frac{2}{4}$        $\frac{4}{8}$        $\frac{8}{16}$        $\frac{16}{32}$

Anchor 1

Litho 0049

Total Content Points: 2 (3.NF.A.1, 3.NF.A.3b)

Total Practice Points: 2 (MP3, MP6)

The student writes two accurate fractions for Figure 1, including  $\frac{2}{4}$  in Part A, and two accurate fractions for Figure 2, including  $\frac{4}{8}$  in Part C (3.NF.A.1). The student writes four fractions equivalent to  $\frac{1}{2}$  in Part E ( $\frac{2}{4}, \frac{4}{8}, \frac{8}{16}, \frac{16}{32}$ ) (3.NF.A.3b). In Part B and Part D, the student states the reason why two different fractions can be written to name the same shaded part of a figure. The student does this in Part B by drawing and labeling a diagram showing two circles, one with one-half shaded and the other with two-fourths shaded, inserting an equal sign and stating that “one half is equivalent to the other fraction” (MP3). The student successfully uses the same approach in Part D, although to receive credit for providing evidence of ability to construct a viable argument, it is sufficient to explain the reason why both fractions describe the same shaded portion either in Part B or in Part D. The student uses precise language and diagrams in the explanations given in Part B (MP6) and Part D .


Total Awarded Points: 4 out of 4

## Fractions Task

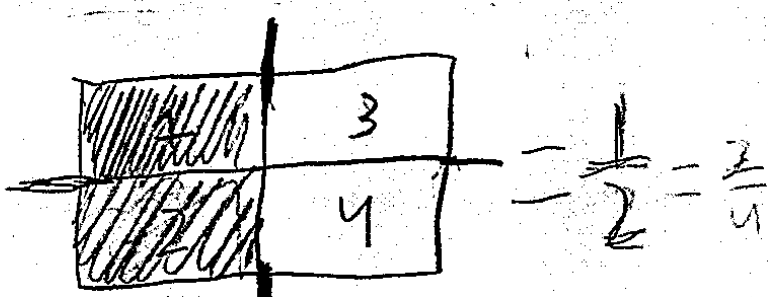
Figure 1




- a. Write a fraction that tells what portion of Figure 1 is shaded. The fraction should tell about the four pieces and the part that is shaded.

  $1/2$  or  $2/4$  is shaded.

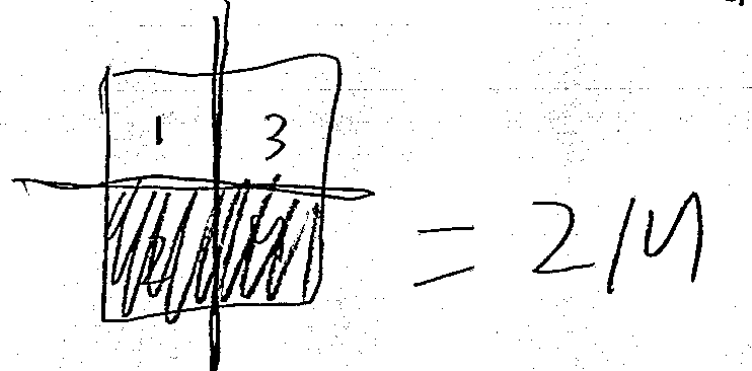
④  $\frac{1}{2} \times \frac{2}{4} = \frac{2}{4}$



Write another fraction with a different denominator and numerator that tells the portion of Figure 1 that is shaded.

  $2/4$  is also shaded

④  $\frac{1}{2} \times \frac{2}{4} = \frac{2}{4}$



Litho#: 00033200144

## Fractions Task

- b. Explain why the shaded portion of Figure 1 can be written as both the first and the second fraction that you wrote in part a.

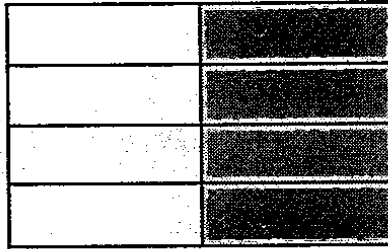
$\frac{1}{2}$  is equivalent to  $\frac{2}{4}$ .

<del>1/4</del>	<del>1/4</del>	$\frac{2}{4}$	$\frac{2}{4}$
$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$	
<del>1/4</del>	<del>1/4</del>	$\frac{1}{2}$	
1 whole			


$\frac{1}{2} \leftrightarrow \frac{2}{4}$

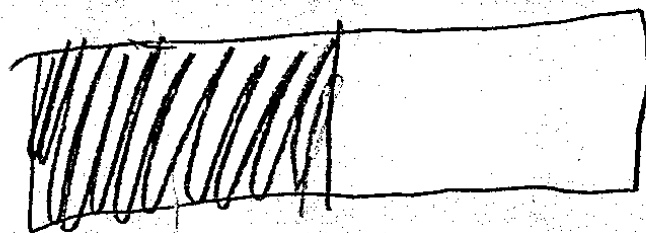
## Fractions Task

Figure 2




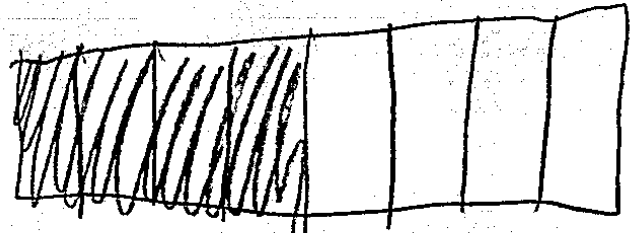
- c. Write a fraction that tells what portion of Figure 2 is shaded. The fraction should tell about the eight pieces and the part that is shaded.

  $1/2$  is shaded



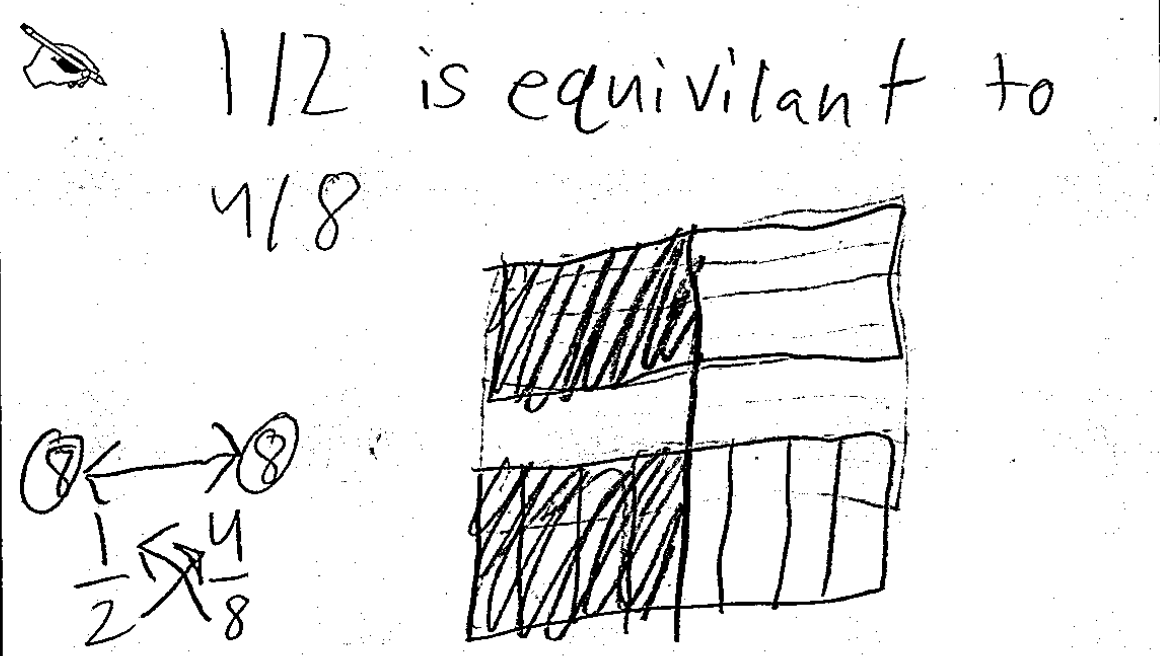
Write another fraction with a different denominator and numerator that tells the portion of Figure 2 that is shaded.

  $4/8$  is shaded



## Fractions Task

- d. Explain why the shaded portion of Figure 2 can be written as both the first and second fraction that you wrote in part c.



$\frac{1}{2}$  is equivalent to  $\frac{4}{8}$

$\frac{1}{2} \rightarrow \frac{4}{8}$

- e. Write four fractions that are equivalent to  $\frac{1}{2}$ .

$$\frac{2}{4}$$

$$\frac{4}{8}$$

$$\frac{3}{6}$$

$$\frac{6}{12}$$



Anchor 2

Litho 00033200144

Total Content Points: 2 (3.NF.A.1, 3.NF.A.3b)

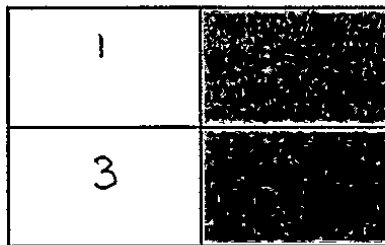
Total Practice Points: 2 (MP3, MP6)

The student writes two accurate fractions for Figure 1, including  $\frac{2}{4}$  in Part A, and two accurate fractions for Figure 2, including  $\frac{4}{8}$  in Part C (3.NF.A.1). The student writes four fractions equivalent to  $\frac{1}{2}$  in Part E  $\left(\frac{2}{4}, \frac{4}{8}, \frac{3}{6}, \frac{6}{12}\right)$  (3.NF.A.3b). In Part D, by drawing a diagram showing two rectangles, one with one-half shaded and the other with four-eighths shaded, and by stating that “ $\frac{1}{2}$  is equivalent to  $\frac{4}{8}$ ,” the student provides the reasoning why two different fractions can be written to name the same shaded part of a figure. The student also uses cross multiplication to show equivalence (MP3). The student uses precise language and diagrams in the explanation given in Part D (MP6).


Total Awarded Points: 4 out of 4

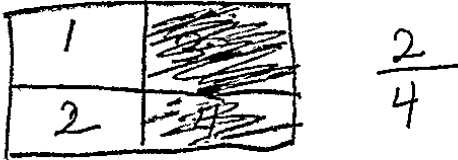
## Fractions Task

Figure 1




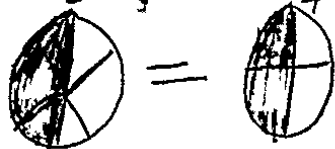
- a. Write a fraction that tells what portion of Figure 1 is shaded. The fraction should tell about the four pieces and the part that is shaded.

 I know it is  $\frac{2}{4}$  because I counted the squares and I saw 4. Then, I counted the shaded area and I saw 2. So I know it is  $\frac{2}{4}$ .




Write another fraction with a different denominator and numerator that tells the portion of Figure 1 that is shaded.

  $\frac{3}{6}$  is equal to  $\frac{2}{4}$  because they are shaded the same amount. It is ok if they have 1 more than 2 but they will always be the same  $\frac{3}{6}$  equal to  $\frac{2}{4}$

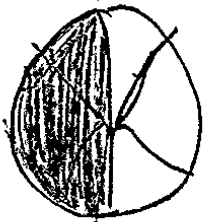
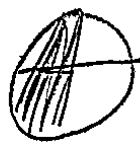


## Fractions Task

- b. Explain why the shaded portion of Figure 1 can be written as both the first and the second fraction that you wrote in part a.

 Because the are equal to each other. If Yailn ate  $\frac{3}{6}$  of a pizza and IF I ate  $\frac{2}{4}$  of a pizza it will be equals

Yailn ate  $\frac{3}{6}$       I ate  $\frac{2}{4}$


      equal      


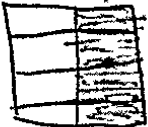
## Fractions Task

Figure 2






- c. Write a fraction that tells what portion of Figure 2 is shaded. The fraction should tell about the eight pieces and the part that is shaded.

 I know it is  $\frac{4}{8}$  because I saw 4 shade in then I said if one side is four that means the other side is to. So I add  $4+4=8$ . So I know it is  $\frac{4}{8}$ .

  $\frac{4}{8}$    $4+4=8$


Write another fraction with a different denominator and numerator that tells the portion of Figure 2 that is shaded.

  $\frac{1}{2}$  is equal to  $\frac{4}{8}$  because it has the same numbers shade in it. So they are equals.

  $\frac{1}{2}$  =   $\frac{4}{8}$

## Fractions Task

- d. Explain why the shaded portion of Figure 2 can be written as both the first and second fraction that you wrote in part c.

 Because they are equal.

$$\frac{1}{2} = \frac{4}{8}$$

- e. Write four fractions that are equivalent to  $\frac{1}{2}$ .

$$\frac{2}{4}$$

$$\frac{3}{6}$$

$$\frac{4}{8}$$

$$\frac{5}{10}$$

Anchor 3

Litho 00603200107

Total Content Points: 2 (3.NF.A.1, 3.NF.A.3b)

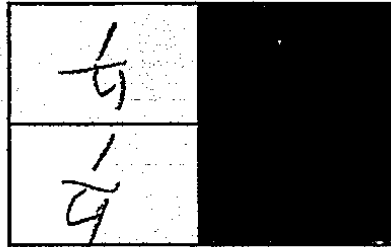
Total Practice Points: 2 (MP3, MP6)

The student writes two accurate fractions for Figure 1, including  $\frac{2}{4}$  in Part A, and two accurate fractions for Figure 2, including  $\frac{4}{8}$  in Part C (3.NF.A.1). The student writes four fractions equivalent to  $\frac{1}{2}$  in Part E  $\left(\frac{2}{4}, \frac{3}{6}, \frac{4}{8}, \frac{5}{10}\right)$  (3.NF.A.3b). In Part B and Part D, the student provides the reasoning why two different fractions can be written to name the same shaded part of a figure. The student does this in Part B by drawing and labeling a diagram showing two circles, one with three-sixths shaded and the other with two-fourths shaded; inserting an equal sign; and stating, “If Yailn ate  $\frac{3}{6}$  of a pizza and If I ate  $\frac{2}{4}$  of a pizza it will be equal.” (MP3). The student also does this in Part D by showing  $\frac{1}{2} = \frac{4}{8}$  and stating “Because the are equal,” which is a minimal but acceptable argument to explain why the shaded portion of the figure can be written as either fraction. The student uses a precise diagram and language in the explanation given in Part B (MP6) and a precise equation and language in the explanation given in Part D.

Total Awarded Points: 4 out of 4

## Fractions Task

Figure 1



- a. Write a fraction that tells what portion of Figure 1 is shaded. The fraction should tell about the four pieces and the part that is shaded.

~~$\frac{1}{4} + \frac{1}{4} = \frac{1}{2}$~~   $\frac{2}{4}$  is shaded and  $\frac{2}{4} = \frac{1}{2}$  so you could say that figure 1 has  $\frac{1}{2}$  shaded.

Figure 1 has  $\frac{1}{2}$

Write another fraction with a different denominator and numerator that tells the portion of Figure 1 that is shaded.

~~$\frac{4}{4} - 2 = \frac{1}{2}$~~  if you have  $\frac{4}{4}$  and  $\frac{2}{4}$  is shaded you could also say that  $\frac{1}{2}$  is shaded.

Figure 1 has  $\frac{2}{4}$

Litho#: 00183200145

## Fractions Task

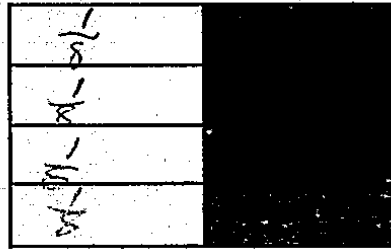
- b. Explain why the shaded portion of Figure 1 can be written as both the first and the second fraction that you wrote in part a.

Well I know that  $\frac{1}{4} + \frac{1}{4} = \frac{1}{2}$   
and  $\frac{4-2}{4} = \frac{1}{2}$ . Both of the  
fractions  $\frac{4}{4} = \frac{1}{2}$ . That's how  
I know.




## Fractions Task


Figure 2



- c. Write a fraction that tells what portion of Figure 2 is shaded. The fraction should tell about the eight pieces and the part that is shaded.

  $\frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} = \frac{4}{8} = \frac{1}{2}$   $\frac{1}{2}$  is shaded.  
 figure 2 has  
 $\frac{1}{2}$

- Write another fraction with a different denominator and numerator that tells the portion of Figure 2 that is shaded.

  $\frac{4}{8} = \frac{4}{8} = \frac{1}{2}$   
 figure 2 has  
 $\frac{4}{8}$   
 $\frac{4}{8}$  is another way you could call fraction 2

## Fractions Task

- d. Explain why the shaded portion of Figure 2 can be written as both the first and second fraction that you wrote in part c.

Well if you have a fraction of 8 and 4 boxes was shaded in then that would be called  $\frac{4}{8}$  but you could also call that  $\frac{1}{2}$  because 4 is half of 8.

- e. Write four fractions that are equivalent to  $\frac{1}{2}$ .

$$\frac{2}{4} \quad \frac{4}{8} \quad \frac{6}{12} \quad \frac{10}{20}$$

Anchor 4

Litho 00183200145

Total Content Points: 2 (3.NF.A.1, 3.NF.A.3b)

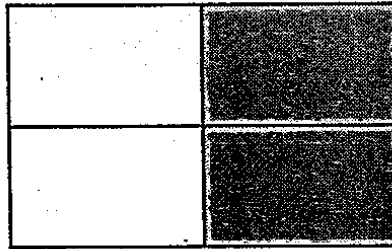
Total Practice Points: 1 (MP3)

The student writes two accurate fractions in Part A for Figure 1, including  $\frac{2}{4}$ , and two accurate fractions in Part C for Figure 2, including  $\frac{4}{8}$  (3.NF.A.1). The student writes four fractions equivalent to  $\frac{1}{2}$  in Part E  $\left(\frac{2}{4}, \frac{4}{8}, \frac{6}{12}, \frac{10}{20}\right)$  (3.NF.A.3b). In Part D, by explaining that 4 shaded boxes of eight total boxes makes the fraction  $\frac{4}{8}$ , and then equating that to  $\frac{1}{2}$  “because 4 is half of 8,” the student provides the reasoning for why two different fractions can be written to name the same shaded part of a figure (MP3). The student does not use precise language in the explanation given in Part D (“a fraction of 8”) (no credit for MP6).

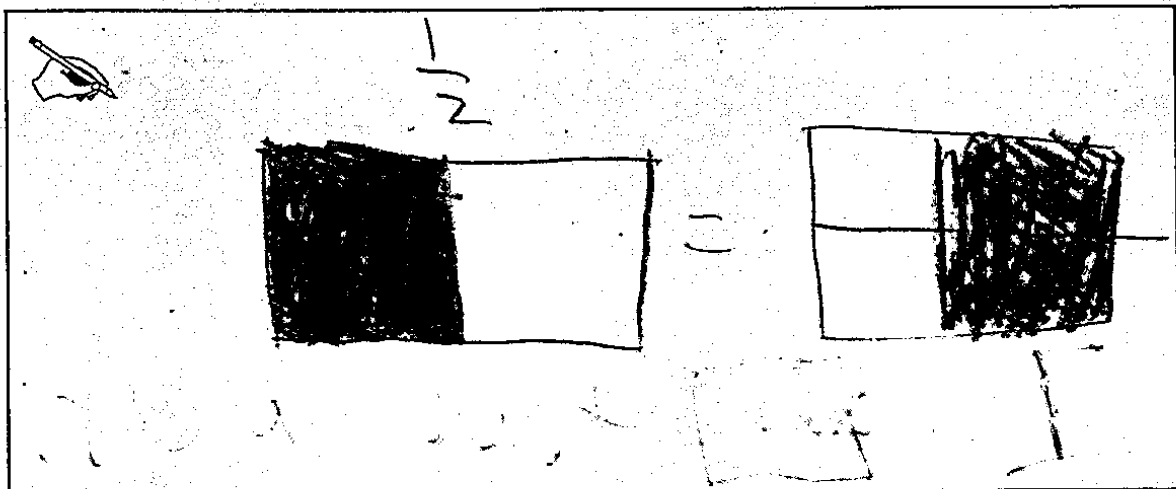
Total Awarded Points: 3 out of 4

## Fractions Task

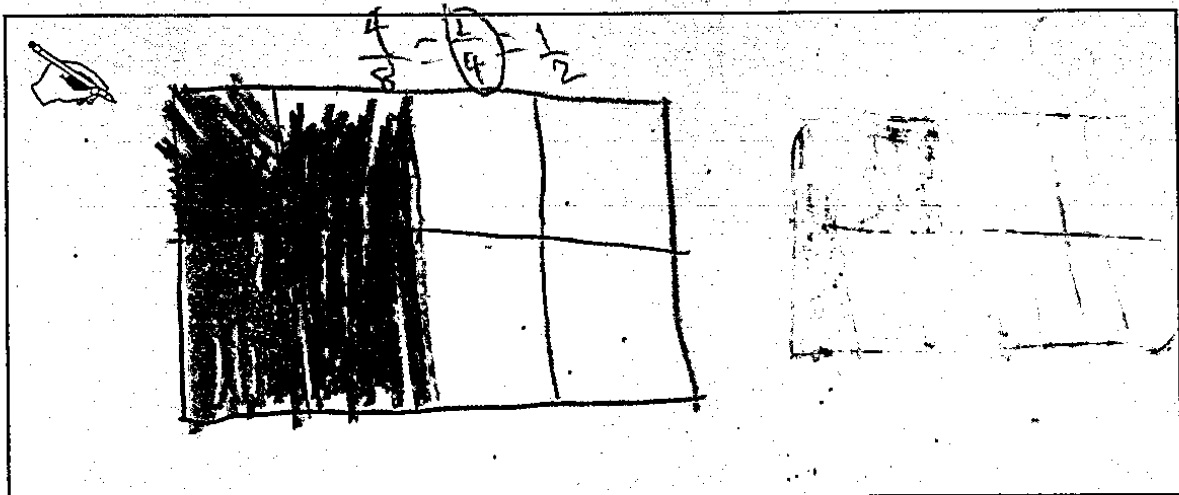
Figure 1



- a. Write a fraction that tells what portion of Figure 1 is shaded. The fraction should tell about the four pieces and the part that is shaded.




Write another fraction with a different denominator and numerator that tells the portion of Figure 1 that is shaded.








Litho#: 00403200144




## Fractions Task

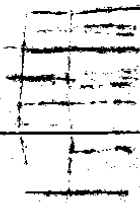
- b. Explain why the shaded portion of Figure 1 can be written as both the first and the second fraction that you wrote in part a.

fraction a is  $\frac{3}{4}$  

my fractions are  $\frac{1}{2}$  and  $\frac{4}{8}$   

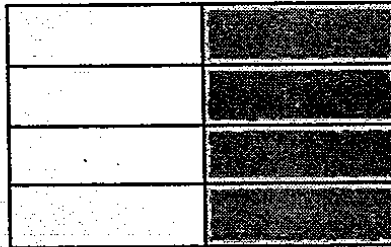
To make  $\frac{1}{2}$  all you do is erase the middle line  →  → 

to make  $\frac{4}{8}$  all you do is add to more lines  →  → 

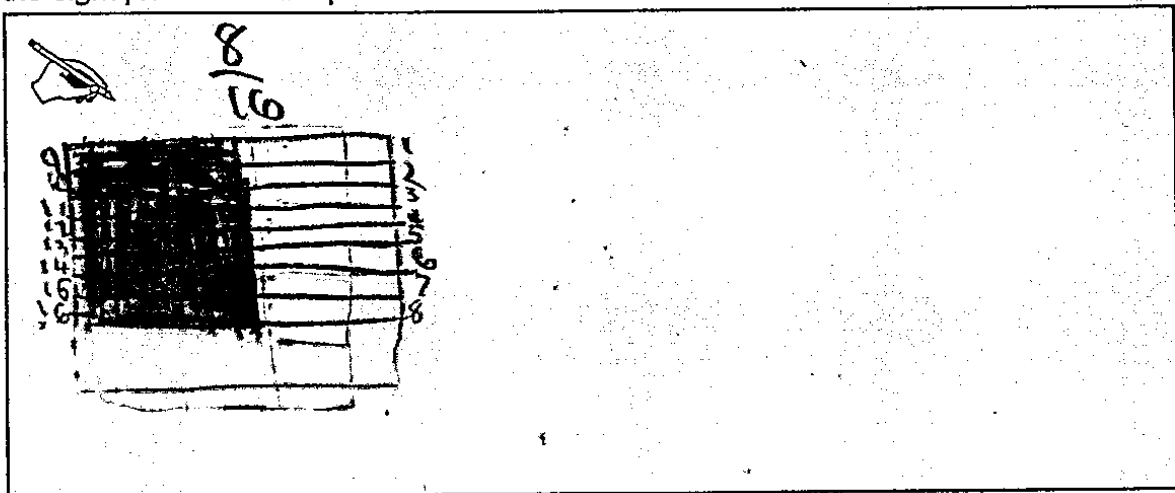


Fractions Task

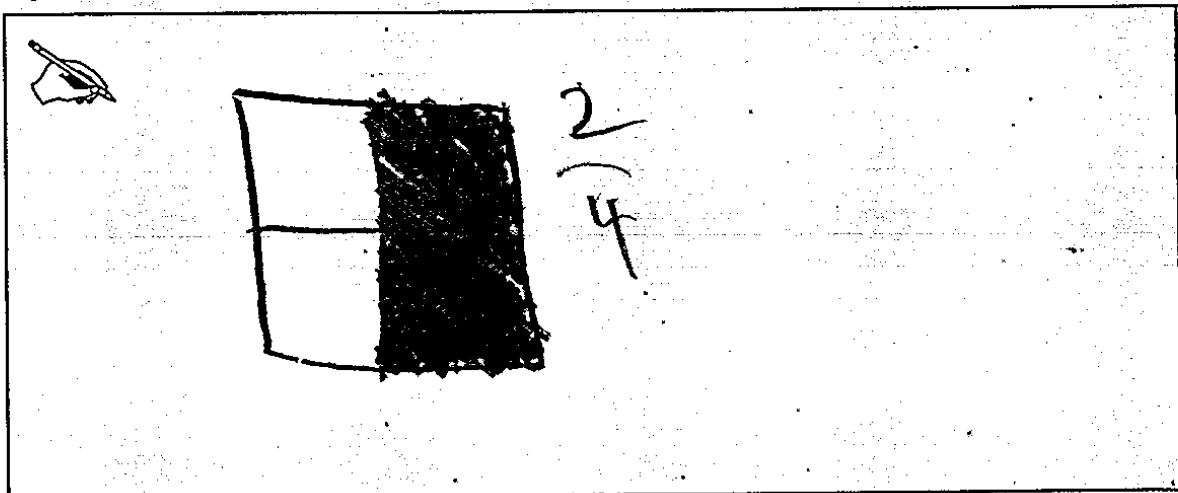
Figure 2



- c. Write a fraction that tells what portion of Figure 2 is shaded. The fraction should tell about the eight pieces and the part that is shaded.








Write another fraction with a different denominator and numerator that tells the portion of Figure 2 that is shaded.



## Fractions Task

- d. Explain why the shaded portion of Figure 2 can be written as both the first and second fraction that you wrote in part c.


 Figure 2 was  $\frac{4}{8}$   
 my figures were  $\frac{8}{16}$  and  $\frac{2}{4}$   $\frac{4}{8}$   $\frac{8}{16}$   
 to get  $\frac{8}{16}$  you double it    
 to get  $\frac{2}{4}$  you erase the middle line  

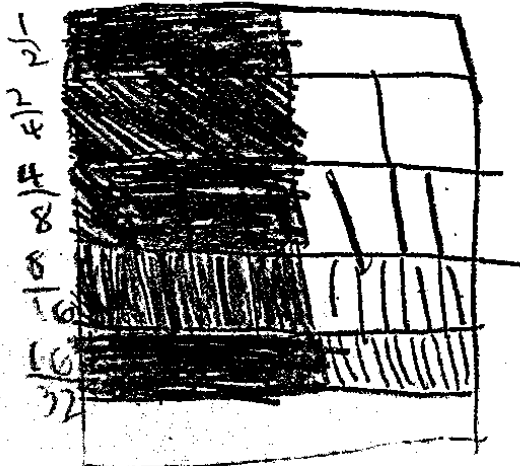
- e. Write four fractions that are equivalent to  $\frac{1}{2}$ .

$$\frac{2}{4}$$

$$\frac{4}{8}$$

$$\frac{8}{16}$$

$$\frac{16}{32}$$



Litho#: 00403200144

Anchor 5

Litho 00403200144

Total Content Points: 1 (3.NF.A.3b)

Total Practice Points: 2 (MP3, MP6)

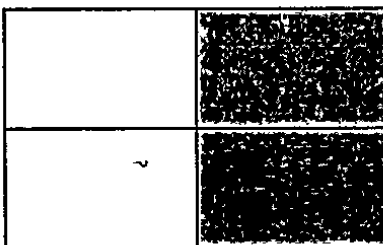
The student writes two accurate fractions in Part A for Figure 1, including  $\frac{2}{4}$ , and two accurate fractions in Part C for Figure 2, but does not include  $\frac{4}{8}$  to tell about the 8 pieces and the part of those 8 pieces that is shaded (no credit for 3.NF.A.1). The student writes four fractions equivalent to  $\frac{1}{2}$  in Part E ( $\frac{2}{4}$ ,  $\frac{4}{8}$ ,  $\frac{8}{16}$ ,  $\frac{16}{32}$ ) (3.NF.A.3b). In Part B, the student states the reasons why three different fractions can be written to name the same shaded part of a figure. To do this, the student first shows three squares, one divided into fourths, one into halves, and one into eighths, each with half shaded. Then, by removing a dividing line (“to make  $\frac{1}{2}$  all you do is erase the middle line”), the student shows how a square divided into four pieces with two shaded can be changed to a square divided into two equal pieces with one shaded. This explains why the shaded portion can be written as the respective fractions. Again using the 4-piece square, the student shows how the square can be partitioned into a square with 8 equal pieces by showing the addition of two lines (“to mak[e]  $\frac{4}{8}$  all you do is add to more lines”), and then numbering the pieces to show 4 and 8 (MP3). The student uses precise language and diagrams in the explanation (MP6).

Total Awarded Points: 3 out of 4



## Fractions Task

Figure 1



- a. Write a fraction that tells what portion of Figure 1 is shaded. The fraction should tell about the four pieces and the part that is shaded.

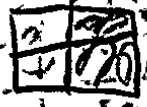


$\frac{2}{4}$  is =  $\frac{1}{2}$ 
  
 shaded figure how many shapes

Write another fraction with a different denominator and numerator that tells the portion of Figure 1 that is shaded.

$\frac{1}{2}$  shaded figure
   
 how many shapes

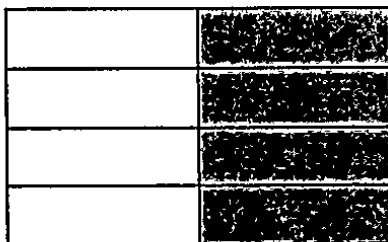
Fractions Task

- b. Explain why the shaded portion of Figure 1 can be written as both the first and the second fraction that you wrote in part a.


BE CAUSE IF YOU TAKE  
THESE  AND TAKE  F  
DIDN'T DO IT,  IT  
WOULD BE =

Fractions Task



Figure 2



- c. Write a fraction that tells what portion of Figure 2 is shaded. The fraction should tell about the eight pieces and the part that is shaded.

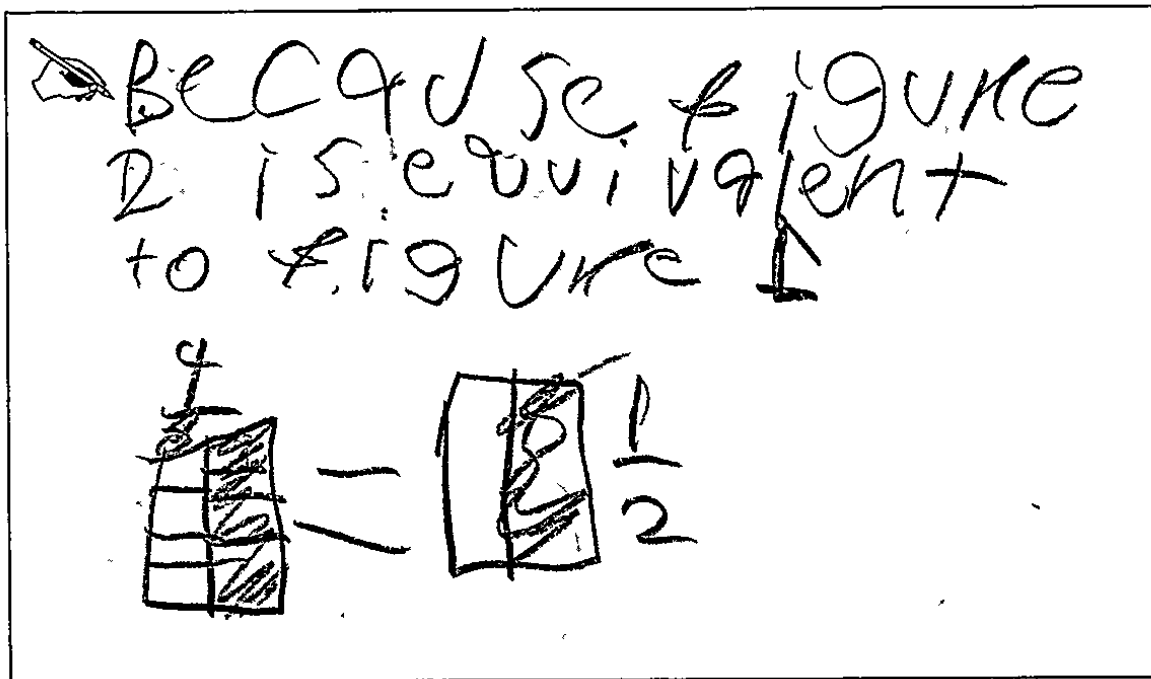
  $\frac{4}{8}$  figure shaded  
 how many shapes

Write another fraction with a different denominator and numerator that tells the portion of Figure 2 that is shaded.

  how many shaded  
 how many shapes

## Fractions Task

- d. Explain why the shaded portion of Figure 2 can be written as both the first and second fraction that you wrote in part c.



- e. Write four fractions that are equivalent to  $\frac{1}{2}$ .

$$\frac{4}{8}$$

$$\frac{2}{4}$$

\_\_\_\_\_

\_\_\_\_\_

Anchor 6

Litho 00113200107

Total Content Points: 1 (3.NF.A.1)

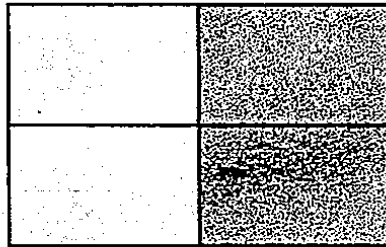
Total Practice Points: 1 (MP3)

The student writes two accurate fractions in Part A for Figure 1, including  $\frac{2}{4}$ , and two accurate fractions in Part C for Figure 2, including  $\frac{4}{8}$  (3.NF.A.1). The student does not write four fractions equivalent to  $\frac{1}{2}$  in Part E (no credit for 3.NF.A.3b). In Part D, by drawing a diagram showing two rectangles, one with four-eighths shaded and the other with one-half shaded, and inserting an equal sign and stating that “figure 2 is equivalent to figure 1,” the student provides the reasoning for why two different fractions can be written to name the same shaded part of a figure (MP3). However, because the student refers to “figure” instead of “fraction,” and because there is uncertainty in the explanation given in Part D whether “Figure 1” and “Figure 2” refer to the student’s unlabeled figures or to the Figures 1 and 2 in the task, the student does not use precise language (no credit for MP6).


Total Awarded Points: 2 out of 4

## Fractions Task


Figure 1



- a. Write a fraction that tells what portion of Figure 1 is shaded. The fraction should tell about the four pieces and the part that is shaded.


  $\frac{2}{4}$  because when you have four pieces of boxes and you take two boxes were take away it will be  $\frac{2}{4}$ .

Write another fraction with a different denominator and numerator that tells the portion of Figure 1 that is shaded.

 when you have four boxes and you tell someone to take two boxes that the fraction will be  $\frac{2}{4}$ .

## Fractions Task

- b. Explain why the shaded portion of Figure 1 can be written as both the first and the second fraction that you wrote in part a.



 $\frac{two}{four}$  is in the part a in the fraction  $\frac{two}{four}$  like the boxes their were four four boxes and two boys came to take two boxes the fraction is  $\frac{two}{four}$

## Fractions Task


Figure 2



- c. Write a fraction that tells what portion of Figure 2 is shaded. The fraction should tell about the eight pieces and the part that is shaded.

 the fraction is  $\frac{4}{8}$

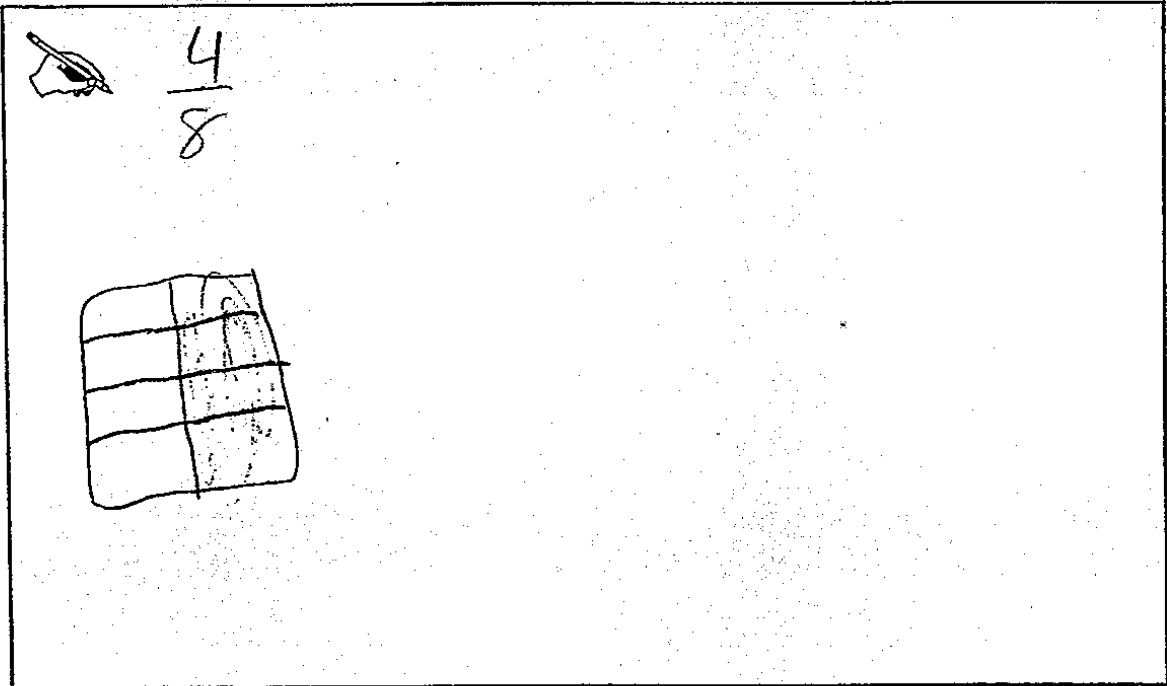
Write another fraction with a different denominator and numerator that tells the portion of Figure 2 that is shaded.

  $\frac{2}{4}$   $\frac{3}{6}$   $\frac{5}{10}$   $\frac{4}{8}$



## Fractions Task

- d. Explain why the shaded portion of Figure 2 can be written as both the first and second fraction that you wrote in part c.



- e. Write four fractions that are equivalent to  $\frac{1}{2}$ .

$$\frac{1}{2} \quad \frac{3}{6} \quad \frac{2}{4} \quad \frac{5}{10} = \dots$$

Anchor 7

Litho 00823200150

Total Content Points: 2 (3.NF.A.1, 3.NF.A.3b)

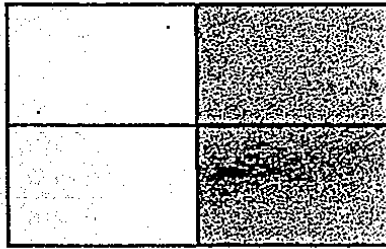
Total Practice Points: 0

The student writes one accurate fraction in Part A for Figure 1  $\left(\frac{2}{4}\right)$ , and four accurate fractions in Part C for Figure 2, including  $\frac{4}{8}$  (3.NF.A.1). The student writes four fractions equivalent to  $\frac{1}{2}$  in Part E  $\left(\frac{1}{2}, \frac{3}{6}, \frac{2}{4}, \frac{5}{10}\right)$ ;  $\frac{1}{2}$  is allowable since it is equivalent to itself (3.NF.A.3b). In Part B or Part D, the student does not provide sufficient reasoning for why two different fractions can be written to name the same shaded part of a figure (no credit for MP3). The student does not use precise language and/or diagrams in the explanation given in Part B. In Part D, although the diagram shows  $\frac{4}{8}$ , the explanation is incomplete and does not provide evidence for precision (no credit for MP6).


Total Awarded Points: 2 out of 4

## Fractions Task

Figure 1




- a. Write a fraction that tells what portion of Figure 1 is shaded. The fraction should tell about the four pieces and the part that is shaded.



$$\frac{2}{4}$$

Write another fraction with a different denominator and numerator that tells the portion of Figure 1 that is shaded.




$$\frac{1}{2}$$

Litho#: 00053200150

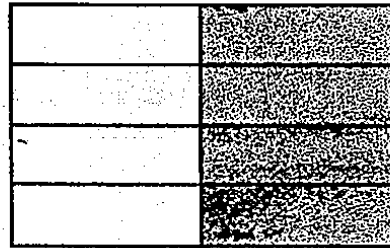
## Fractions Task

- b. Explain why the shaded portion of Figure 1 can be written as both the first and the second fraction that you wrote in part a.


 I can tell you why did  $\frac{2}{4}$  is because  
it showed a box and 9 were in the box and 2  
were shaded. I  $\frac{1}{3}$ 's and I did it  
because that was ~~the~~ easiest one I think  
of.

## Fractions Task


Figure 2



- c. Write a fraction that tells what portion of Figure 2 is shaded. The fraction should tell about the eight pieces and the part that is shaded.


$$\frac{4}{8}$$

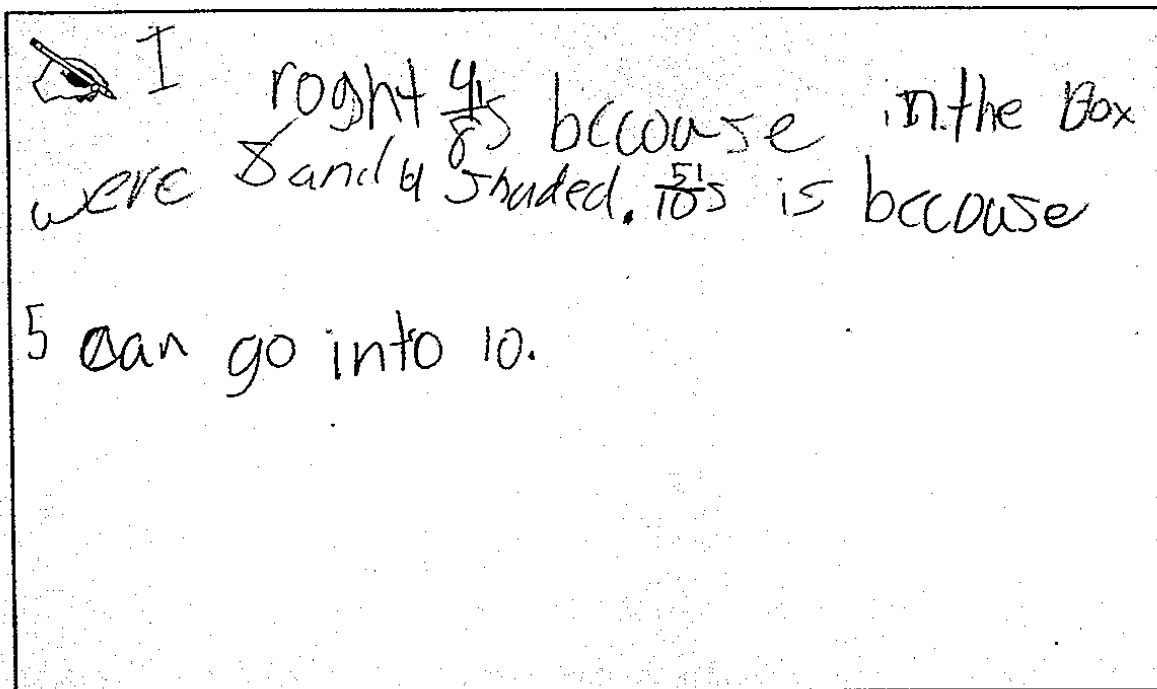
Write another fraction with a different denominator and numerator that tells the portion of Figure 2 that is shaded.


$$\frac{5}{10}$$

Litho#: 00053200150

## Fractions Task

- d. Explain why the shaded portion of Figure 2 can be written as both the first and second fraction that you wrote in part c.

 I right  $\frac{4}{8}$  because in the box were 8 and 4 shaded.  $\frac{5}{10}$  is because 5 can go into 10.

- e. Write four fractions that are equivalent to  $\frac{1}{2}$ .

$$\frac{2}{4}$$

$$\frac{3}{6}$$

$$\frac{1}{4}$$

$$\frac{4}{8}$$

Anchor 8

Litho 00053200150

Total Content Points: 1 (3.NF.A.1)

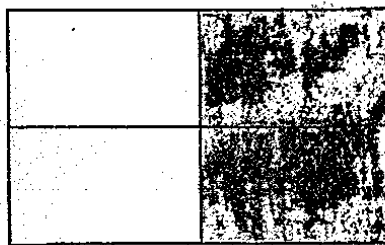
Total Practice Points: 0

The student writes two accurate fractions in Part A for Figure 1, including  $\frac{2}{4}$ , and two accurate fractions in Part C for Figure 2, including  $\frac{4}{8}$  (3.NF.A.1). In Part E, the student writes one fraction equivalent to  $\frac{1}{2}$  ( $\frac{2}{4}$ ), but the other three are incorrect (no credit for 3.NF.A.3b). In neither Part B nor Part D does the student provide sufficient reasoning to explain why two different fractions can be written to name the same shaded part of a figure (no credit for MP3). The student explains in Part B why Figure 1 is  $\frac{2}{4}$  and in Part D why Figure 2 is  $\frac{4}{8}$ , but does not address why either of the figures can be written as both fractions provided by the student, thereby not providing sufficient evidence for precision (no credit for MP6).


Total Awarded Points: 1 out of 4

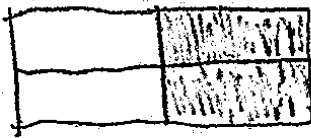
## Fractions Task

Figure 1


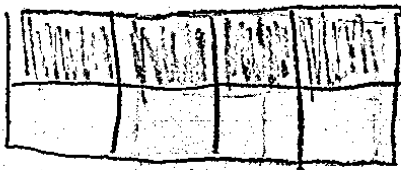


- a. Write a fraction that tells what portion of Figure 1 is shaded. The fraction should tell about the four pieces and the part that is shaded.


 answer  $\frac{2}{4}$   
 because the total is 4 and 2 are shaded

  
 $\frac{2}{4}$   
 $\frac{1}{4} + \frac{1}{4} = \frac{2}{4}$

Write another fraction with a different denominator and numerator that tells the portion of Figure 1 that is shaded.

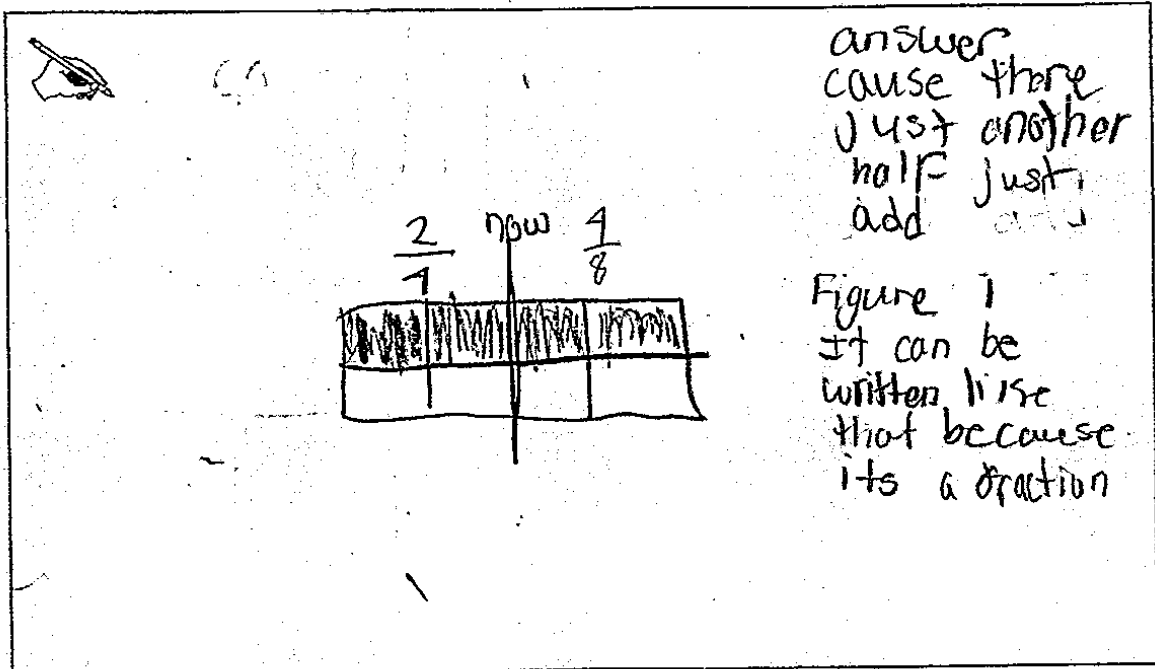

  
 $\frac{4}{8}$

answer  
 you can do  $\frac{4}{8}$  because there was 2 so theres still 2 its just twice



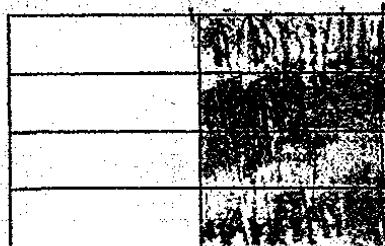
## Fractions Task

- b. Explain why the shaded portion of Figure 1 can be written as both the first and the second fraction that you wrote in part a.



## Fractions Task

Figure 2



- c. Write a fraction that tells what portion of Figure 2 is shaded. The fraction should tell about the eight pieces and the part that is shaded.

4

every friend got two

$$\frac{4}{8}$$

answer

Say if there was eight cookies and four friends wanted some cookies

4 is shaded because there 4 friends and eight cookies

how much would they get

Write another fraction with a different denominator and numerator that tells the portion of Figure 2 that is shaded.

add more

## Fractions Task

- d. Explain why the shaded portion of Figure 2 can be written as both the first and second fraction that you wrote in part c.

Handwritten student work for part d. The work includes a drawing of a pencil, the fractions  $\frac{4}{8}$  and  $\frac{8}{16}$  with the word "and" between them, and two rectangular boxes. The top box contains three vertical lines, and the bottom box contains a scribbled-out area.

- e. Write four fractions that are equivalent to  $\frac{1}{2}$ .

Handwritten student work for part e. The first two fractions are  $\frac{2}{2}$  and  $\frac{1}{2}$ . The next two are blank lines.

$$\frac{2}{2} \quad \frac{1}{2} \quad \underline{\hspace{1cm}} \quad \underline{\hspace{1cm}}$$

Anchor 9

Litho 0025

Total Content Points: 1 (3.NF.A.1)

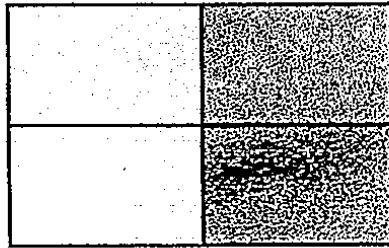
Total Practice Points: 0

The student writes two accurate fractions in Part A for Figure 1, including  $\frac{2}{4}$ , and writes one accurate fraction in Part B for Figure 2  $\left(\frac{4}{8}\right)$  (3.NF.A.1). The student does not write four fractions equivalent to  $\frac{1}{2}$  in Part E, providing only  $\frac{1}{2}$  (no credit for 3.NF.A.3b). In Part B or Part D, the student does not provide sufficient reasoning to explain why two different fractions can be written to name the same shaded part of a figure. In Part B, it is unclear whether the student has subdivided the figure or added on to it (no credit for MP3). The student does not use precise language and/or diagrams in the explanations given in Part B or Part D (no credit for MP6).


Total Awarded Points: 1 out of 4

## Fractions Task


Figure 1



- a. Write a fraction that tells what portion of Figure 1 is shaded. The fraction should tell about the four pieces and the part that is shaded.

  $\frac{2}{4}$  are shaded.


Write another fraction with a different denominator and numerator that tells the portion of Figure 1 that is shaded.

  $\frac{2}{2}$

Litho#: 00543200150

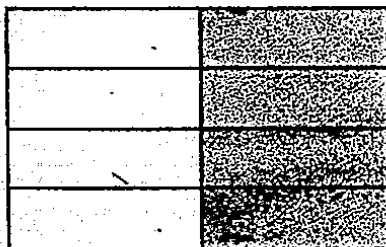
## Fractions Task

- b. Explain why the shaded portion of Figure 1 can be written as both the first and the second fraction that you wrote in part a.

 They can be written in both ways because in figure 1 there's two shaded and there's 4 squares in all and it makes  $\frac{2}{4}$ . In the second question I look at the squares and thought two squares are in one side and two are in the other side so I thought and my answer was  $\frac{2}{2}$ .

## Fractions Task


Figure 2



- c. Write a fraction that tells what portion of Figure 2 is shaded. The fraction should tell about the eight pieces and the part that is shaded.


  $\frac{8}{4}$  are shaded.

Write another fraction with a different denominator and numerator that tells the portion of Figure 2 that is shaded.

  $\frac{8}{8}$

## Fractions Task

- d. Explain why the shaded portion of Figure 2 can be written as both the first and second fraction that you wrote in part c.

 They can be written in both ways because they both have one side shaded and the other is not so you think there's one side incomplete and the other is not so for the first question I put  $\frac{8}{8}$  because there 8 rectangles altogether. There was 4 shaded  $8-4=4$ . In the other my answer was  $\frac{4}{8}$ .

- e. Write four fractions that are equivalent to  $\frac{1}{2}$ .

$$\frac{2}{4} \quad \frac{2}{6} \quad \frac{3}{6} \quad \frac{4}{8}$$



Anchor 10

Litho 00543200150

Total Content Points: 0

Total Practice Points: 0

The student writes only one accurate fraction in Part A for Figure 1  $\left(\frac{2}{4}\right)$ , and no accurate fractions in Part C for Figure 2 (no credit for 3.NF.A.1). In Part E the student writes three fractions equivalent to  $\frac{1}{2}$   $\left(\frac{2}{4}, \frac{3}{6}, \frac{4}{8}\right)$ , but the other is incorrect  $\left(\frac{2}{6}\right)$  (no credit for 3.NF.A.3b). In Part B or Part D, the student does not provide sufficient reasoning to explain why two different fractions can be written to name the same shaded part of a figure (no credit for MP3). The student gives unclear and inaccurate reasoning in developing explanations in both Parts B and D, thereby not using precise language and/or diagrams (no credit for MP6).

Total Awarded Points: 0 out of 4