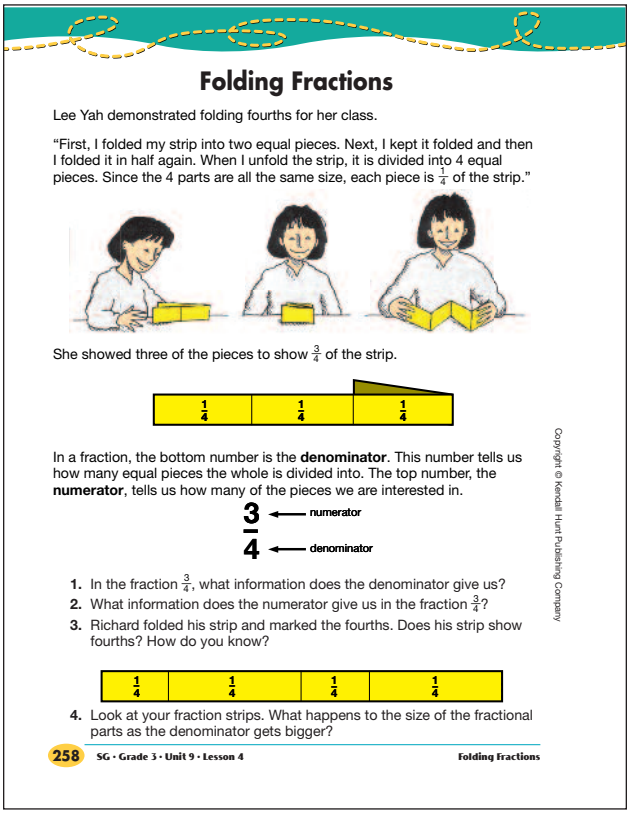
Student Guide

Folding Fractions (SG pp. 258–260)
Questions 1–11

1. The denominator tells that the whole is divided into four equal pieces.
2. The numerator tells that we are interested in three of the pieces.
3. Richard showed four parts on his strip but they are not equal. He needs to show 4 equal parts to show fourths.
4. The size of the parts gets smaller as the number of parts (denominator) gets bigger.
5. $\frac{2}{4}, \frac{3}{6}, \frac{4}{8}$
6. $\frac{6}{8}$
7. $\frac{2}{6}$
8. Peter, since $\frac{3}{4}$ is larger than $\frac{1}{2}$.
9. Roberto, since $\frac{1}{2}$ is smaller than $\frac{5}{8}$.
10. A. $\frac{1}{4}$ B. $\frac{1}{2}$ C. $\frac{4}{6}$ D. $\frac{7}{8}$ E. $\frac{2}{3}$
11. A. $\frac{1}{8}, \frac{1}{4}, \frac{1}{2}$ B. $\frac{2}{4}, \frac{2}{3}, \frac{2}{2}$ C. $\frac{1}{8}, \frac{1}{6}, \frac{1}{3}$ D. $\frac{2}{6}, \frac{4}{8}, \frac{2}{3}$



Folding Fractions

Lee Yah demonstrated folding fourths for her class.

"First, I folded my strip into two equal pieces. Next, I kept it folded and then I folded it in half again. When I unfold the strip, it is divided into 4 equal pieces. Since the 4 parts are all the same size, each piece is $\frac{1}{4}$ of the strip."

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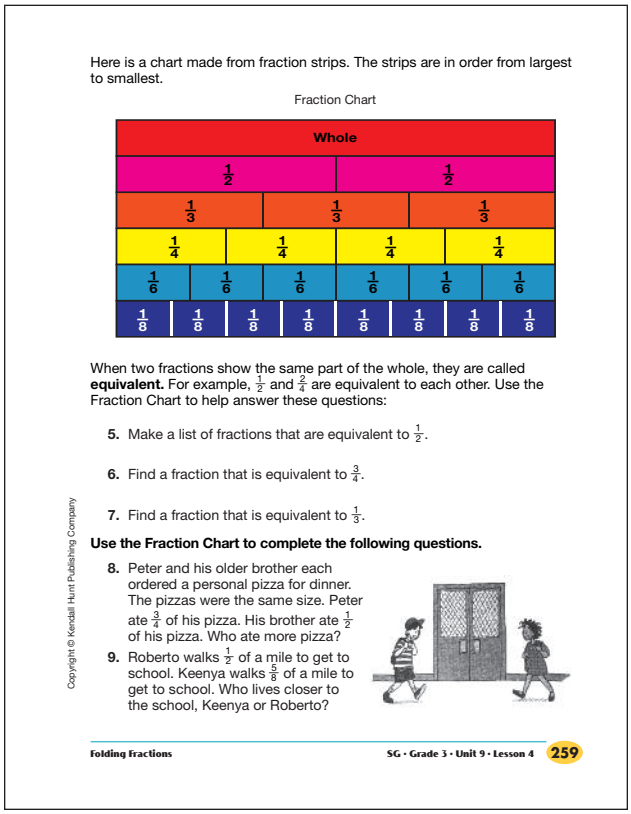

Here is a chart made from fraction strips. The strips are in order from largest to smallest.

Fraction Chart

When two fractions show the same part of the whole, they are called **equivalent.** For example, $\frac{1}{2}$ and $\frac{2}{4}$ are equivalent to each other. Use the Fraction Chart to help answer these questions:

5. Make a list of fractions that are equivalent to $\frac{1}{2}$.
6. Find a fraction that is equivalent to $\frac{3}{4}$.
7. Find a fraction that is equivalent to $\frac{1}{3}$.

Use the Fraction Chart to complete the following questions.

8. Peter and his older brother each ordered a personal pizza for dinner. The pizzas were the same size. Peter ate $\frac{3}{4}$ of his pizza. His brother ate $\frac{1}{2}$ of his pizza. Who ate more pizza?
9. Roberto walks $\frac{1}{2}$ of a mile to get to school. Keenya walks $\frac{5}{8}$ of a mile to get to school. Who lives closer to the school, Keenya or Roberto?

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Folding Fractions SG • Grade 3 • Unit 9 • Lesson 4 259

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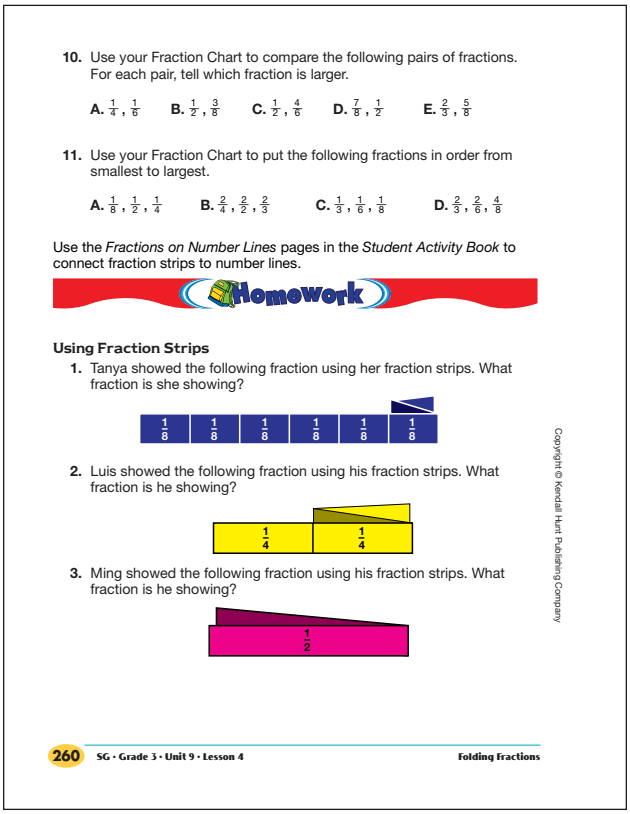

10. Use your Fraction Chart to compare the following pairs of fractions. For each pair, tell which fraction is larger.

A. $\frac{1}{4}, \frac{1}{6}$ B. $\frac{1}{2}, \frac{3}{8}$ C. $\frac{1}{2}, \frac{4}{6}$ D. $\frac{7}{8}, \frac{1}{2}$ E. $\frac{2}{3}, \frac{5}{8}$

11. Use your Fraction Chart to put the following fractions in order from smallest to largest.

A. $\frac{1}{8}, \frac{1}{2}, \frac{1}{4}$ B. $\frac{2}{4}, \frac{2}{2}, \frac{2}{3}$ C. $\frac{1}{3}, \frac{1}{6}, \frac{1}{8}$ D. $\frac{2}{3}, \frac{2}{6}, \frac{4}{8}$

Use the *Fractions on Number Lines* pages in the *Student Activity Book* to connect fraction strips to number lines.

Homework

Using Fraction Strips

1. Tanya showed the following fraction using her fraction strips. What fraction is she showing?

$\frac{1}{8}$ $\frac{1}{8}$ $\frac{1}{8}$ $\frac{1}{8}$ $\frac{1}{8}$ $\frac{1}{8}$

2. Luis showed the following fraction using his fraction strips. What fraction is he showing?

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

3. Ming showed the following fraction using his fraction strips. What fraction is he showing?

$\frac{1}{2}$

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10. Use your Fraction Chart to compare the following pairs of fractions. For each pair, tell which fraction is larger.

A. $\frac{1}{4}, \frac{1}{6}$ B. $\frac{1}{2}, \frac{3}{8}$ C. $\frac{1}{2}, \frac{4}{6}$ D. $\frac{7}{8}, \frac{1}{2}$ E. $\frac{2}{3}, \frac{5}{8}$

11. Use your Fraction Chart to put the following fractions in order from smallest to largest.

A. $\frac{1}{8}, \frac{1}{2}, \frac{1}{4}$ B. $\frac{2}{4}, \frac{2}{2}, \frac{2}{3}$ C. $\frac{1}{3}, \frac{1}{6}, \frac{1}{8}$ D. $\frac{2}{3}, \frac{2}{6}, \frac{4}{8}$

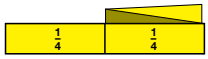
Use the *Fractions on Number Lines* pages in the *Student Activity Book* to connect fraction strips to number lines.

Homework

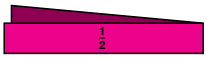
Using Fraction Strips

1. Tanya showed the following fraction using her fraction strips. What fraction is she showing?

2. Luis showed the following fraction using his fraction strips. What fraction is he showing?



3. Ming showed the following fraction using his fraction strips. What fraction is he showing?



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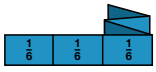
4. Write a fraction for each fraction strip.

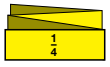
A.



B.

C.

D.



5. Linda folded her eighths strip to show $\frac{3}{8}$.
   A. In the fraction $\frac{3}{8}$ what information does the denominator give us?
   B. In the fraction $\frac{3}{8}$ what information does the numerator give us?

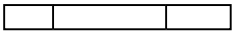
✓ Check-In: Questions 6-8

6. Use the Fraction Chart to find:
   A. three fractions equivalent to $\frac{4}{8}$.
   B. a fraction equivalent to $\frac{3}{4}$.
   C. a fraction equivalent to $\frac{4}{6}$.
7. Use your Fraction Chart to compare the following pairs of fractions. Tell which fraction is larger.

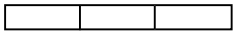
A. $\frac{3}{4}, \frac{1}{8}$ B. $\frac{2}{8}, \frac{2}{6}$ C. $\frac{3}{8}, \frac{2}{3}$ D. $\frac{1}{2}, \frac{2}{3}$

8. Who showed fractions correctly? Explain how you know.

Kim's fraction strip



Sam's fraction strip



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Student Guide

Homework (SG pp. 260–261)
Questions 1–8

1. $\frac{6}{8}$
2. $\frac{2}{4}$
3. $\frac{1}{2}$
4. A. $\frac{3}{6}$
   B. $\frac{3}{3}$
   C. $\frac{4}{8}$
   D. $\frac{1}{4}$
5. A. The denominator tells that the whole strip is divided into eight equal pieces.
   B. The numerator tells that we are interested in three of the pieces.
6. A. $\frac{1}{2}, \frac{2}{4}, \frac{3}{6}$
   B. $\frac{6}{8}$
   C. $\frac{2}{3}$
7. A. $\frac{3}{4}$
   B. $\frac{2}{6}$
   C. $\frac{2}{3}$
   D. $\frac{2}{3}$
8. Sam, because he showed equal parts on his fraction strip.

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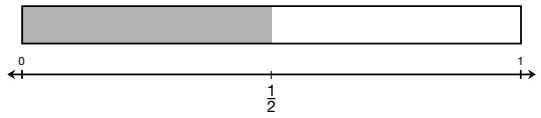
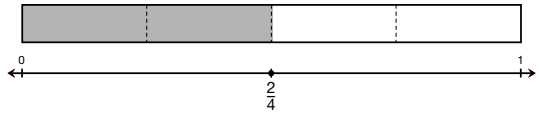
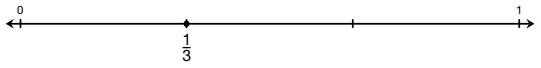
Student Activity Book

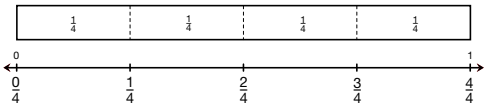
Fractions on Number Lines (SAB pp. 347–353)
Questions 1–8

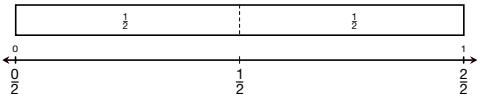
1. 

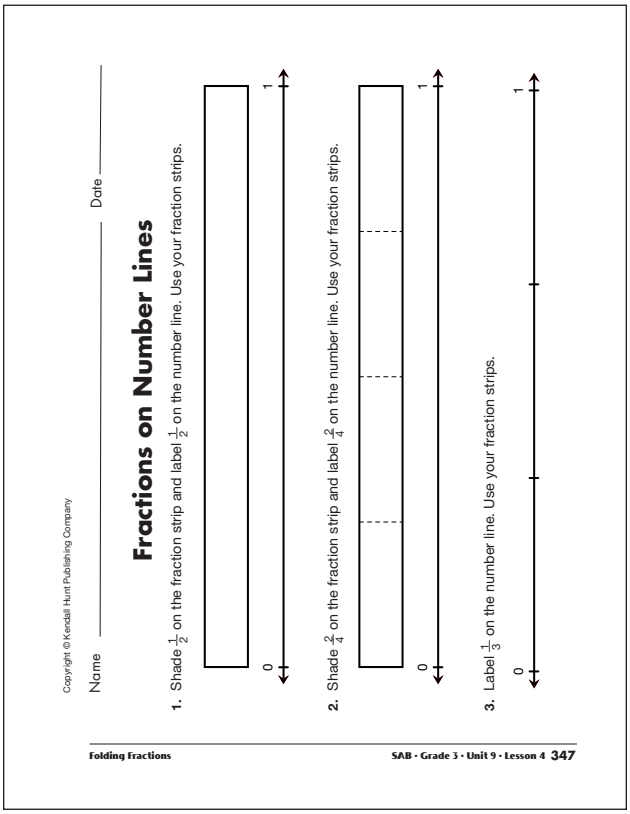
2. 

3. 

4. A.

B. 

C. 


Name _____ Date _____

Fractions on Number Lines

1. Shade $\frac{1}{2}$ on the fraction strip and label $\frac{1}{2}$ on the number line. Use your fraction strips.
2. Shade $\frac{2}{4}$ on the fraction strip and label $\frac{2}{4}$ on the number line. Use your fraction strips.
3. Label $\frac{1}{3}$ on the number line. Use your fraction strips.

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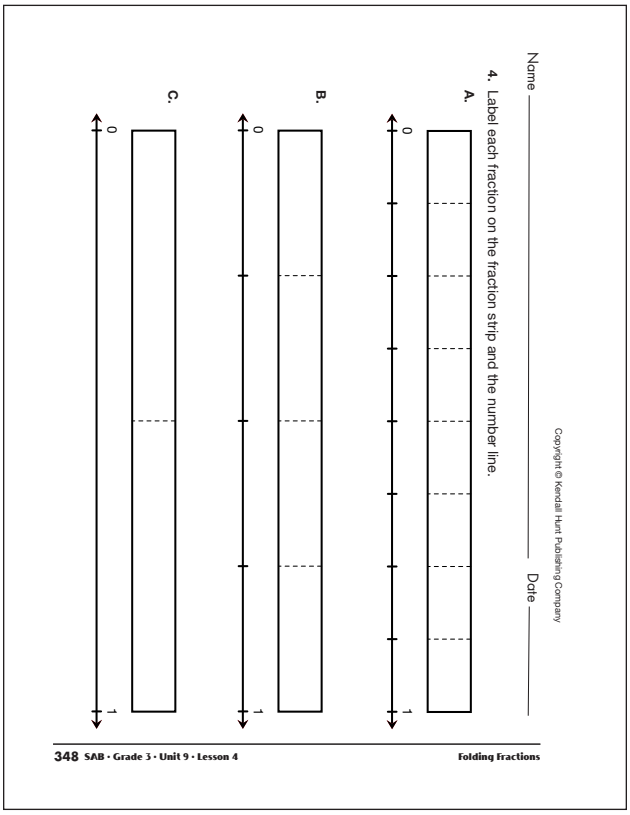
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4. Label each fraction on the fraction strip and the number line.

A. B. C.

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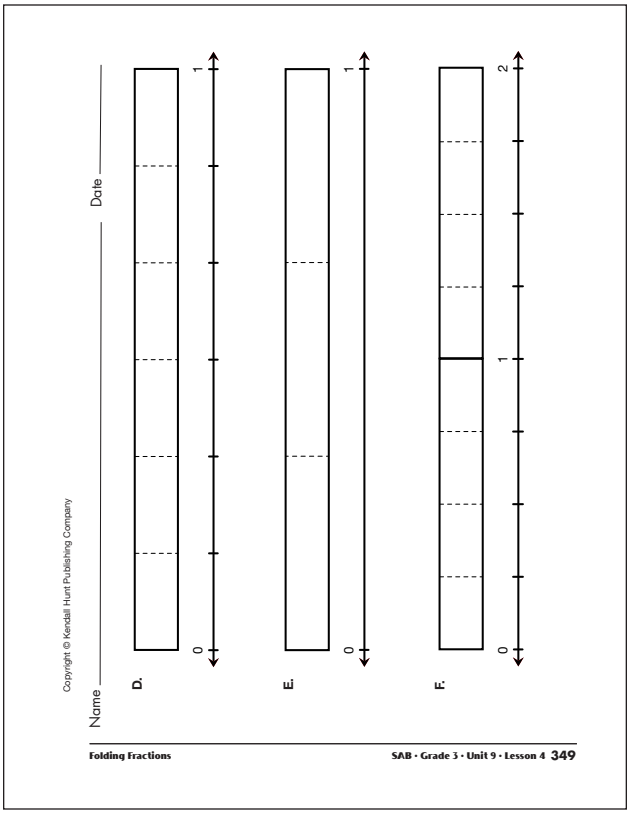

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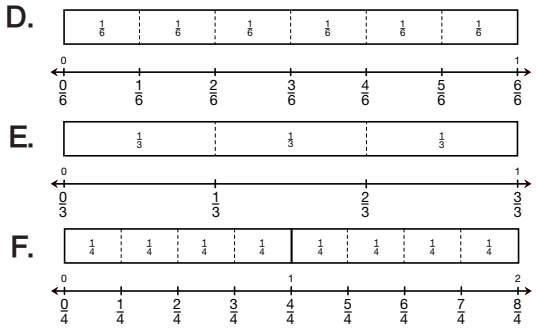

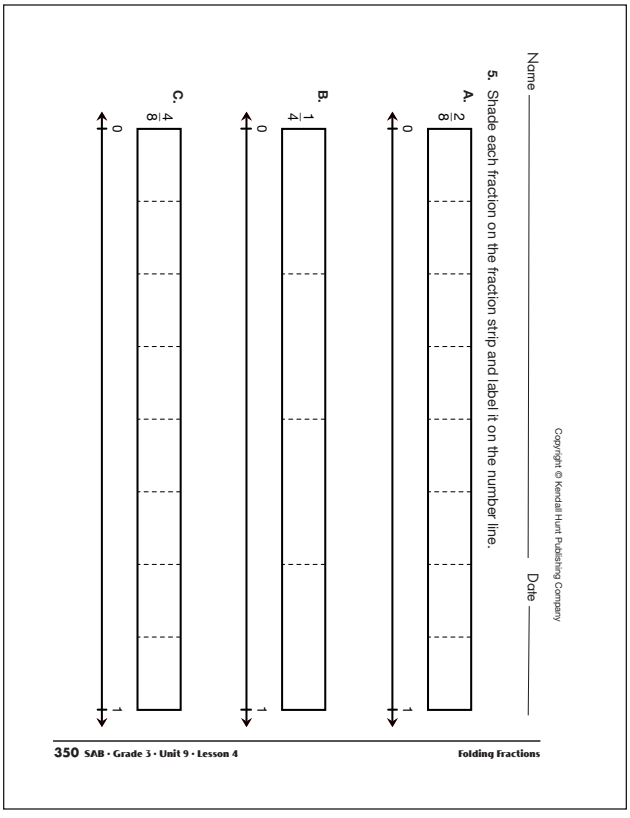

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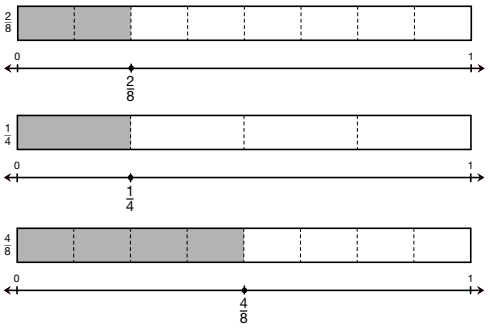
5. A. B. C.



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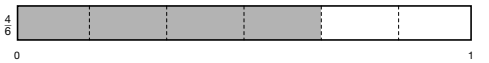
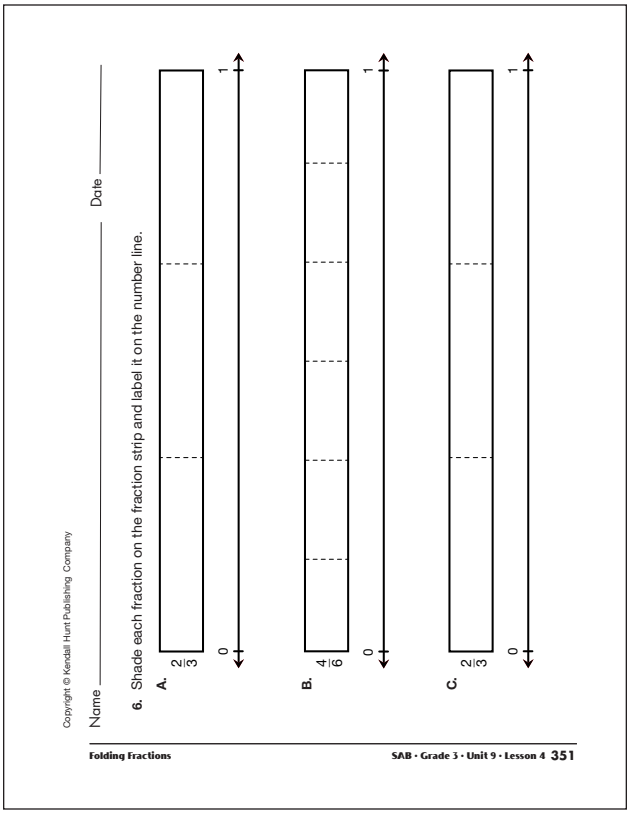
6. A. $\frac{2}{3}$

B. $\frac{4}{6}$



C. $\frac{2}{3}$



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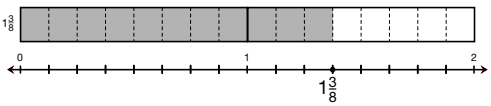
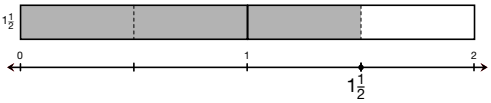
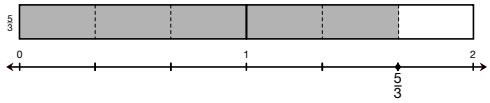
7. A. $1\frac{3}{8}$

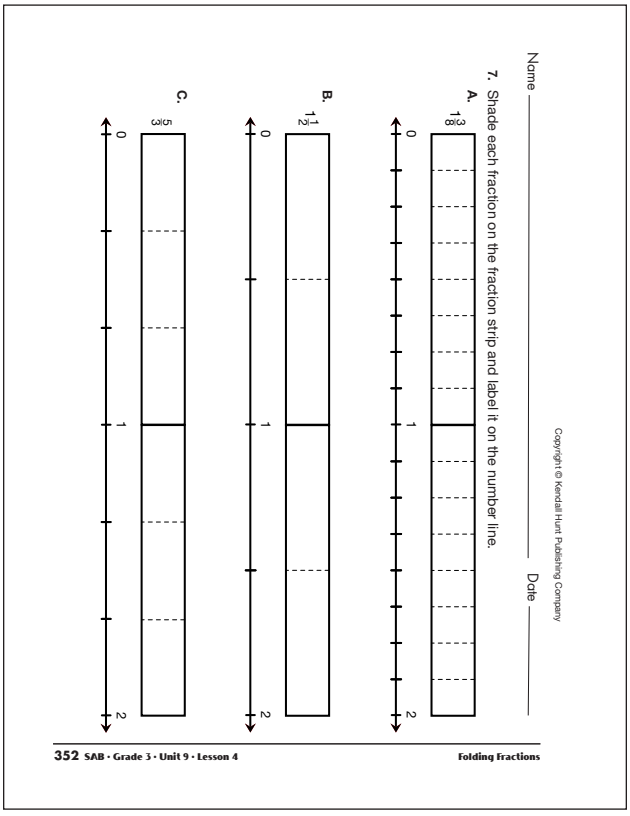


B. $1\frac{1}{2}$



C. $\frac{5}{3}$





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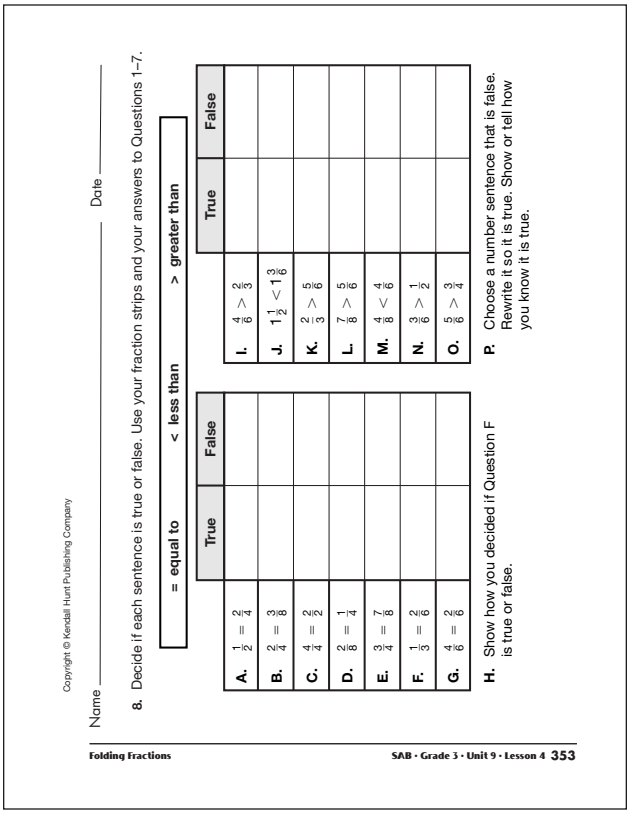

Name _____ Date _____

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8. Decide if each sentence is true or false. Use your fraction strips and your answers to Questions 1–7.

= equal to < less than > greater than

		True	False
A.	$\frac{1}{2} = \frac{2}{4}$		
B.	$\frac{2}{4} = \frac{3}{8}$		
C.	$\frac{4}{4} = \frac{2}{2}$		
D.	$\frac{2}{8} = \frac{1}{4}$		
E.	$\frac{3}{4} = \frac{7}{8}$		
F.	$\frac{1}{3} = \frac{2}{6}$		
G.	$\frac{4}{6} = \frac{2}{6}$		

H. Show how you decided if Question F is true or false.

		True	False
I.	$\frac{4}{6} > \frac{2}{3}$		
J.	$1\frac{1}{2} < 1\frac{3}{6}$		
K.	$\frac{2}{3} > \frac{5}{6}$		
L.	$\frac{7}{8} > \frac{5}{6}$		
M.	$\frac{4}{8} < \frac{4}{6}$		
N.	$\frac{3}{6} > \frac{1}{2}$		
O.	$\frac{5}{6} > \frac{3}{4}$		

P. Choose a number sentence that is false. Rewrite it so it is true. Show or tell how you know it is true.

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8.

	True	False
A.* $\frac{1}{2} = \frac{2}{4}$	✓	
B. $\frac{2}{4} = \frac{3}{8}$		✓
C. $\frac{4}{4} = \frac{2}{2}$	✓	
D. $\frac{2}{8} = \frac{1}{4}$	✓	
E. $\frac{3}{4} = \frac{7}{8}$		✓
F. $\frac{1}{3} = \frac{2}{6}$		
G. $\frac{4}{6} = \frac{2}{6}$		✓

H. Responses will vary. I folded my orange and aqua strips. $\frac{1}{3}$ of the strip and $\frac{2}{6}$ of the strip are the same length. $\frac{1}{3} = \frac{2}{6}$.

	True	False
I. $\frac{4}{6} > \frac{2}{3}$		✓
J. $1\frac{1}{2} < 1\frac{3}{6}$		✓
K. $\frac{2}{3} > \frac{5}{6}$		✓
L. $\frac{7}{8} > \frac{5}{6}$	✓	
M. $\frac{4}{8} < \frac{4}{6}$	✓	
N. $\frac{3}{6} > \frac{1}{2}$		✓
O. $\frac{5}{6} > \frac{3}{4}$	✓	

P. Responses will vary. Possible responses:

change $\frac{2}{4} = \frac{3}{8}$ to $\frac{2}{4} = \frac{4}{8}$ or $\frac{2}{4} > \frac{3}{8}$

change $\frac{3}{4} = \frac{7}{8}$ to $\frac{3}{4} = \frac{6}{8}$ or $\frac{3}{4} < \frac{7}{8}$

change $\frac{4}{6} = \frac{2}{6}$ to $\frac{4}{6} > \frac{2}{6}$ or $\frac{4}{6} = \frac{4}{6}$

change $\frac{4}{6} > \frac{2}{3}$ to $\frac{4}{6} = \frac{2}{3}$

change $1\frac{1}{2} < 1\frac{3}{6}$ to $1\frac{1}{2} = 1\frac{3}{6}$ or $1\frac{1}{2} < 1\frac{4}{6}$

change $\frac{2}{3} > \frac{5}{6}$ to $\frac{2}{3} < \frac{5}{6}$ or $\frac{2}{3} = \frac{4}{6}$

change $\frac{3}{6} > \frac{1}{2}$ to $\frac{3}{6} = \frac{1}{2}$ or $\frac{4}{6} > \frac{1}{2}$

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***Answers and/or discussion are included in the lesson.**