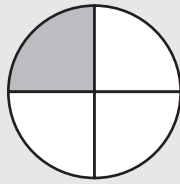


NS4-45 Naming Fractions

The area is cut into 4 equal parts.

1 part out of 4 is shaded.

$\frac{1}{4}$ of the area is shaded.



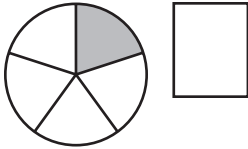
$$\frac{1}{4}$$

The **numerator** (1) tells you one part is shaded.

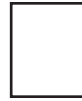
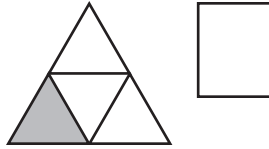
The **denominator** (4) tells you how many equal parts are in a whole.

1. Write the fraction shown by the shaded part of the image.

a)



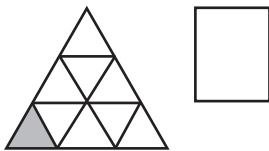
b)



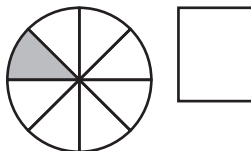
c)



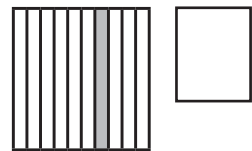
d)



e)

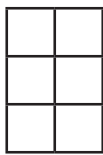


f)

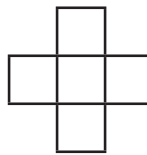


2. Shade the fraction.

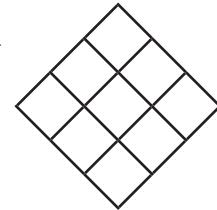
a) $\frac{1}{6}$



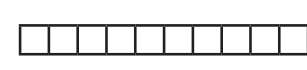
b) $\frac{1}{5}$



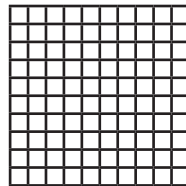
c) $\frac{1}{9}$



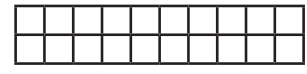
d) $\frac{1}{10}$



e) $\frac{1}{100}$



f) $\frac{1}{20}$



3. Write the words that describe each square in the figure.

one fourth

one fifth

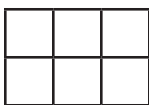
one sixth

one seventh

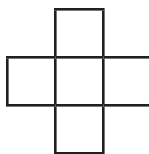
one eighth

one ninth

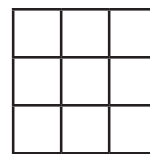
a)



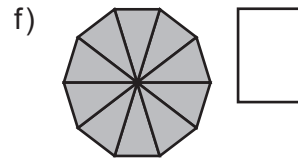
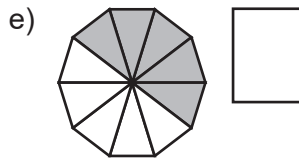
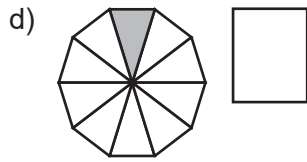
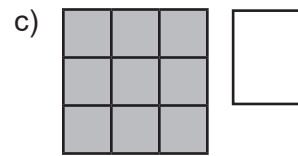
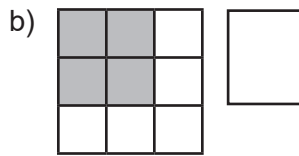
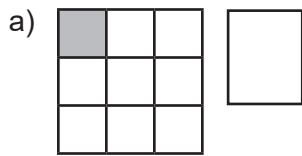
b)



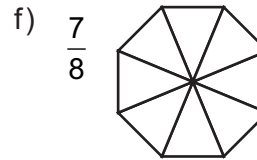
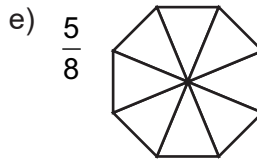
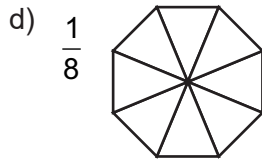
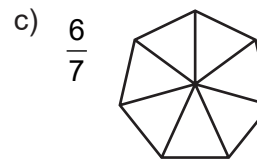
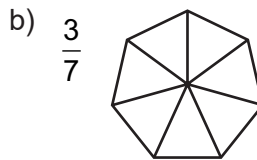
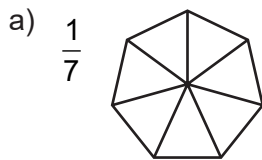
c)



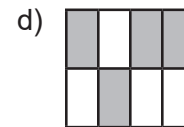
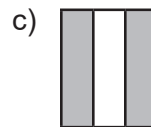
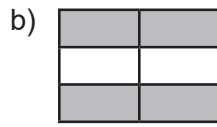
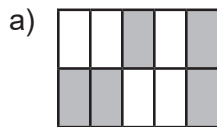
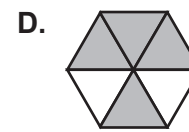
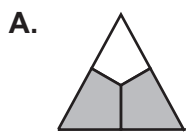
4. Write the fraction shown by the shaded part of the figure.



5. Shade the fraction.



6. Find a fraction in the top row that is equal to a fraction in the bottom row. Fill in the blank with the letter from the fraction in the top row.

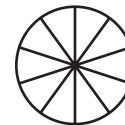
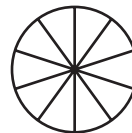
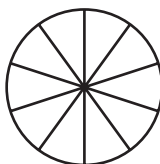


7. Shade the fraction twice. Put a ✓ under the figure with the larger amount of shading.

a) $\frac{1}{10}$

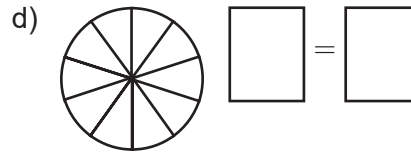
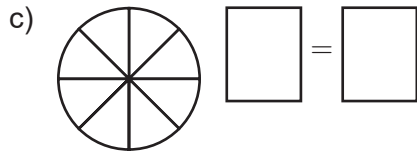
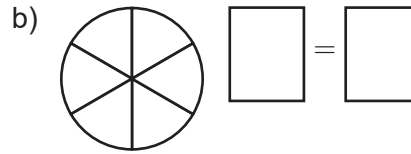
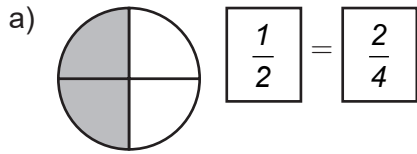
b) $\frac{4}{10}$

c) $\frac{7}{10}$

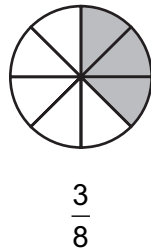
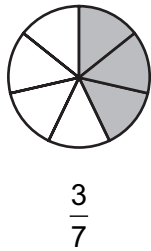
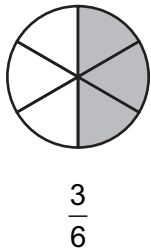
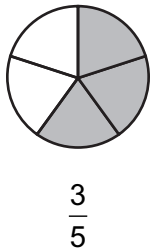
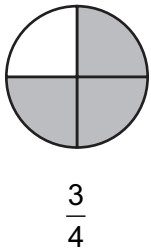


NS4-46 Comparing Fractions to Benchmarks


1. Shade half of the figure. Write two fractions to describe the shaded part.



2. Circle the fractions that are more than half.



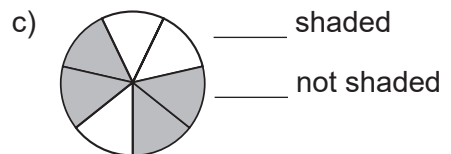
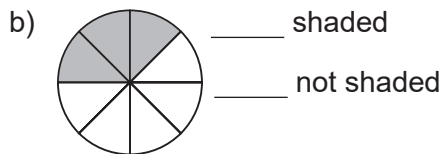
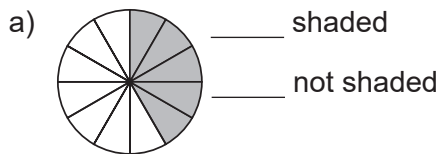
Is $\frac{3}{5}$ more than $\frac{1}{2}$ or less than $\frac{1}{2}$?



There are 5 parts altogether. $5 - 3 = 2$ parts are not shaded.

When more parts are shaded than not shaded, the fraction is greater than $\frac{1}{2}$, so $\frac{3}{5} > \frac{1}{2}$.

3. How many shaded parts does the fraction show? How many parts are not shaded?



4. Write $>$ or $<$.

a) $\frac{2}{5} \square \frac{1}{2}$

b) $\frac{4}{9} \square \frac{1}{2}$

c) $\frac{6}{11} \square \frac{1}{2}$

d) $\frac{13}{25} \square \frac{1}{2}$

e) $\frac{23}{50} \square \frac{1}{2}$

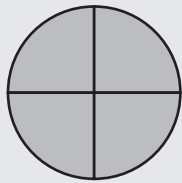
f) $\frac{5}{11} \square \frac{1}{2}$

5. Karen drank $\frac{3}{8}$ of a bottle of milk. Ella drank $\frac{6}{11}$ of it. Who drank more milk?

Hint: Compare the fractions to $\frac{1}{2}$. _____

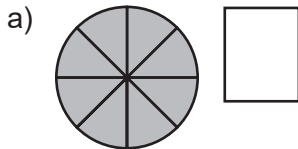
6. Glen ran around $\frac{3}{5}$ of a track. Yu ran around $\frac{1}{3}$ of it. Who ran farther? _____

Rob really likes pizza! The pizza has 4 slices, and Rob ate 4 slices:



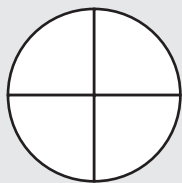
Rob ate $\frac{4}{4}$ of a pizza. Rob ate 1 pizza.

7. Write the shaded fraction.



8. A fraction is equal to 1 if its numerator and denominator are _____.

Rob does not like this pizza at all! The pizza has 4 slices, and Rob ate 0 slices:



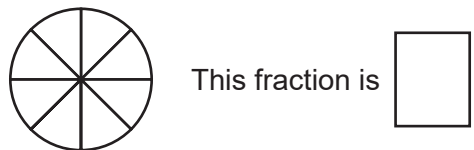
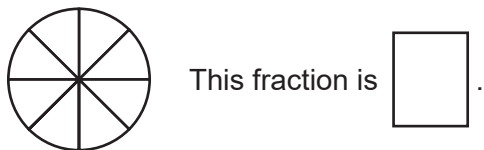
Rob ate $\frac{0}{4}$ of a pizza. Rob ate none of the pizza.

9. Write if the fraction is “equal to” or “greater than” 0.

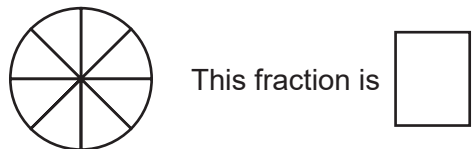
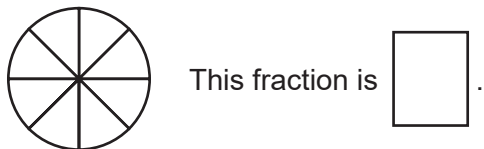
a) The fraction is _____ 0. b) The fraction is _____ 0.

10. A fraction is equal to 0 if its numerator is _____.

11. Shade two different fractions between 0 and $\frac{1}{2}$, and then write the fractions.


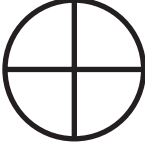



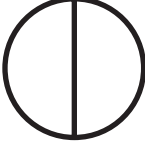
12. Shade two different fractions between $\frac{1}{2}$ and 1, and then write the fractions.


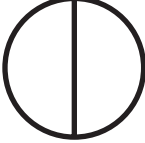




NS4-47 Equivalent Fractions

1. How many times as many parts are there?

a)  has _____ times as many parts as .

b)  has _____ times as many parts as .

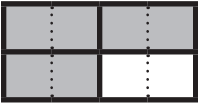
c)  has _____ times as many parts as .

d)  has _____ times as many parts as .


2. Fill in the blanks.

a) A has _____ times as many parts as B.
A has _____ times as many shaded parts as B.

A

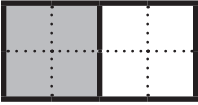


B




b) A has _____ times as many parts as B.
A has _____ times as many shaded parts as B.

A

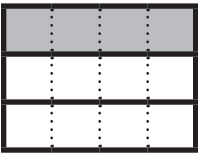


B

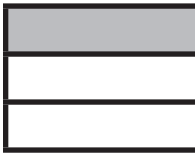


c) A has _____ times as many parts as B.
A has _____ times as many shaded parts as B.

A

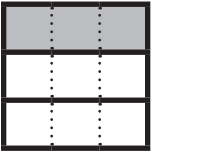


B




d) A has _____ times as many parts as B.
A has _____ times as many shaded parts as B.

A



B

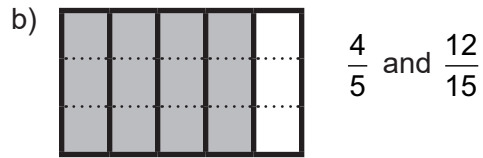


3. The picture shows two equivalent fractions. Fill in the blanks.



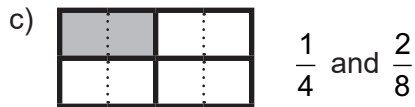
2 is _____ times as much as 1.

10 is _____ times as much as 5.



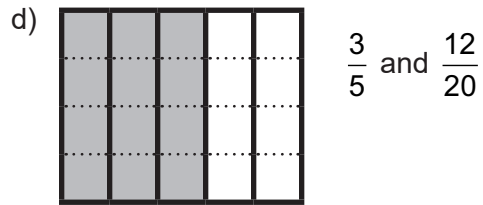
12 is _____ times as much as 4.

15 is _____ times as much as 5.



2 is _____ times as much as 1.

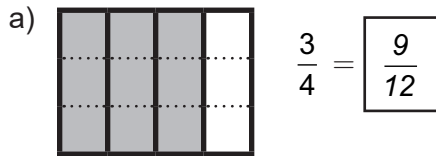
8 is _____ times as much as 4.



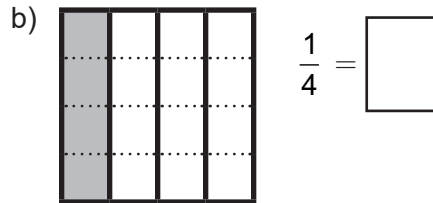
12 is _____ times as much as 3.

20 is _____ times as much as 5.

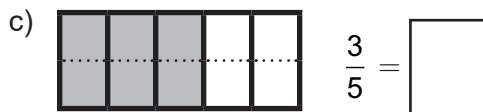
4. Write an equivalent fraction for the picture. Then write how many times as much the new numerator and denominator are.



_____ times as much

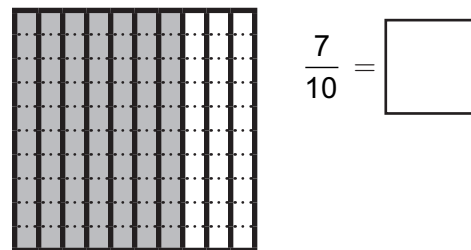


_____ times as much



_____ times as much

BONUS ▶

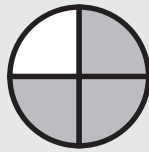


_____ times as much

To get an equivalent fraction, multiply the numerator **and** denominator by the same number.

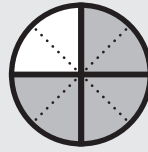
Example:

Picture A



$$\frac{3}{4} \xrightarrow{\times 2} \frac{6}{8}$$

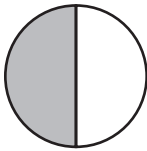
Picture B



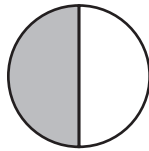
Picture B has twice as many **parts** as Picture A.
Picture B has twice as many **shaded parts** as Picture A.

5. Draw lines to cut the pies into more equal pieces. Then fill in the numerators of the equivalent fractions.

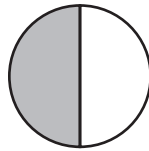
a)



4 pieces



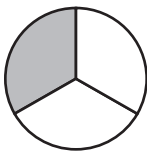
6 pieces



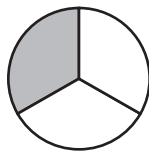
8 pieces

$$\frac{1}{2} = \frac{\quad}{4} = \frac{\quad}{6} = \frac{\quad}{8}$$

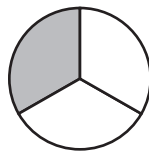
b)



6 pieces



9 pieces

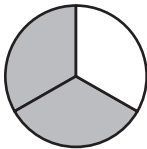


12 pieces

$$\frac{1}{3} = \frac{\quad}{6} = \frac{\quad}{9} = \frac{\quad}{12}$$

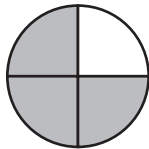
6. Draw lines to cut the pie into more pieces. Then fill in the missing numbers.

a)



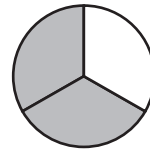
$$\frac{2}{3} \xrightarrow{\times 2} \frac{\quad}{6}$$

b)



$$\frac{3}{4} \xrightarrow{\times \quad} \frac{\quad}{8}$$

c)



$$\frac{2}{3} \xrightarrow{\times \quad} \frac{\quad}{9}$$

This number tells you how many pieces to cut each slice into.

7. Use multiplication to find the equivalent fraction.

a) $\frac{1}{3} \times \frac{2}{2} = \frac{\quad}{6}$

b) $\frac{1}{2} \times \frac{\quad}{\quad} = \frac{\quad}{10}$

c) $\frac{2}{5} = \frac{\quad}{10}$

d) $\frac{3}{4} = \frac{\quad}{8}$

e) $\frac{1}{4} = \frac{\quad}{12}$

f) $\frac{4}{5} = \frac{\quad}{15}$

g) $\frac{5}{6} = \frac{\quad}{12}$

h) $\frac{3}{10} = \frac{\quad}{100}$

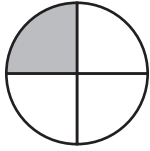
i) $\frac{5}{9} = \frac{\quad}{72}$

8. Write five fractions equivalent to $\frac{2}{3}$.

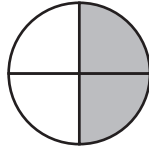
$$\frac{2}{3} = \boxed{\quad} = \boxed{\quad} = \boxed{\quad} = \boxed{\quad} = \boxed{\quad}$$

NS4-48 Comparing and Ordering Fractions

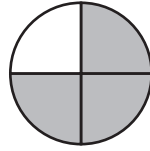
1. a) Write the numerators of the shaded fractions.



$\frac{\quad}{4}$



$\frac{\quad}{4}$



$\frac{\quad}{4}$

b) Look at the pictures and fractions in part a) from left to right. Write “increases,” “decreases,” or “stays the same.”

i) Numerator _____.

ii) Denominator _____.

iii) Shaded fraction _____.

Comparing fractions when ...

the numerator changes

and

the denominator stays the same

$$\frac{1}{5}$$

fewer shaded parts →



← same number and size of parts

more shaded parts →



$$\frac{2}{5}$$

So $\frac{2}{5} > \frac{1}{5}$ because more parts are shaded.

2. Circle the greater fraction.

a) $\frac{2}{5}$ or $\frac{4}{5}$

b) $\frac{3}{4}$ or $\frac{1}{4}$

c) $\frac{4}{10}$ or $\frac{9}{10}$

d) $\frac{3}{3}$ or $\frac{1}{3}$

3. Write any number in the blank that makes the relationship correct.

a) $\frac{3}{7} > \frac{1}{7}$

b) $\frac{\quad}{29} < \frac{14}{29}$

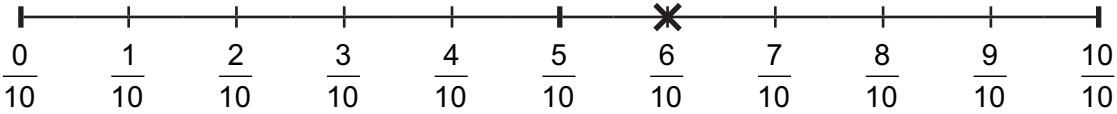
c) $\frac{61}{385} > \frac{\quad}{385}$

BONUS ► $\frac{\quad}{1000} < \frac{2}{1000}$

4. Two fractions have the same denominator but different numerators. How can you tell which fraction is greater?

5. Use the number line to order the fractions from least to greatest.

Draw an **X** to mark the position of each fraction.



$\frac{6}{10}$ $\frac{1}{10}$ $\frac{8}{10}$ $\frac{4}{10}$ $\frac{2}{10}$ $\frac{9}{10}$ $\frac{5}{10}$ < < < < < <

6. Order the fractions from least to greatest by considering the numerators and denominators.

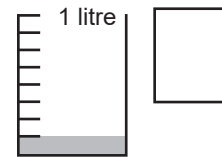
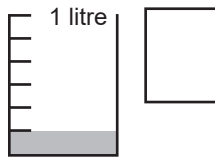
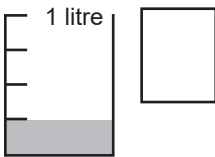
a) $\frac{3}{5}$ $\frac{0}{5}$ $\frac{2}{5}$ $\frac{5}{5}$ $\frac{1}{5}$

b) $\frac{6}{10}$ $\frac{1}{10}$ $\frac{4}{10}$ $\frac{2}{10}$ $\frac{9}{10}$

< < < <

< < < <

7. a) What fraction of a litre is in the container?



b) Which fraction in part a) is ...

i) the smallest?

ii) the biggest?

iii) in the middle?

c) Write "smaller" or "bigger." As the denominator gets bigger, each part gets _____.

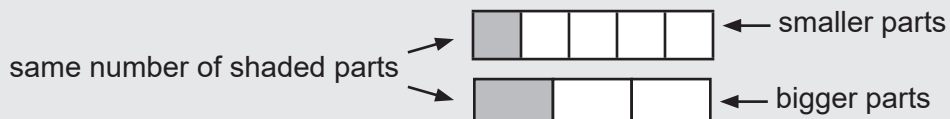
Comparing fractions when ...

the numerator stays the same

and

the denominator changes

$\frac{1}{5}$



$\frac{1}{3}$

So $\frac{1}{5} < \frac{1}{3}$ because the parts are smaller in the shape with more parts.

8. Circle the greater fraction.

a) $\frac{2}{5}$ or $\frac{2}{3}$

b) $\frac{3}{4}$ or $\frac{3}{5}$

c) $\frac{4}{5}$ or $\frac{4}{10}$

d) $\frac{3}{4}$ or $\frac{3}{3}$

9. Write any number in the blank that makes the relationship correct.

a) $\frac{3}{5} > \frac{\quad}{8}$

b) $\frac{\quad}{15} > \frac{14}{29}$

c) $\frac{9}{16} > \frac{9}{\quad}$

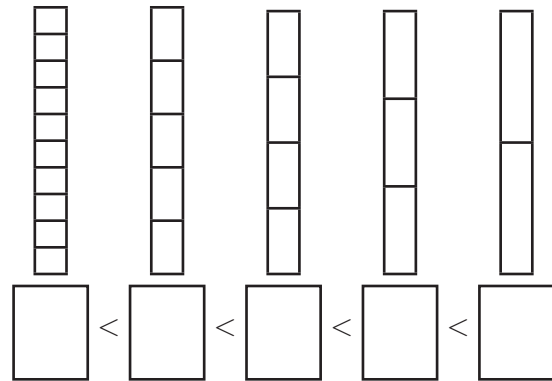
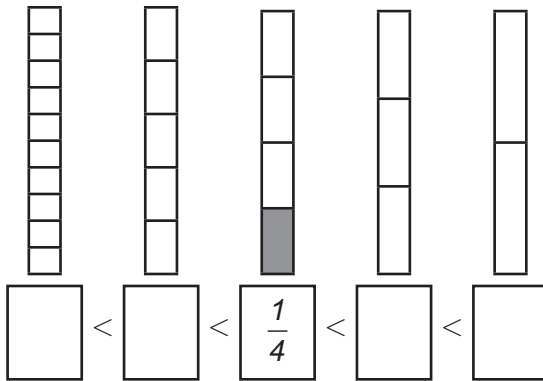
d) $\frac{20}{4} < \frac{20}{27}$

10. Two fractions have the same numerator but different denominators. How can you tell which fraction is greater?

11. a) Order the fractions from least to greatest by matching each fraction to the strip it represents and then shading it.

i) $\frac{1}{4}$ $\frac{1}{10}$ $\frac{1}{2}$ $\frac{1}{5}$ $\frac{1}{3}$

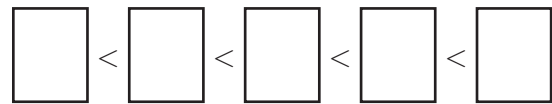
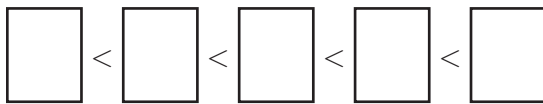
ii) $\frac{2}{2}$ $\frac{2}{4}$ $\frac{2}{10}$ $\frac{2}{3}$ $\frac{2}{5}$



b) Order the fractions from least to greatest by considering the numerators and denominators.

i) $\frac{1}{4}$ $\frac{1}{10}$ $\frac{1}{2}$ $\frac{1}{5}$ $\frac{1}{3}$

ii) $\frac{2}{2}$ $\frac{2}{4}$ $\frac{2}{10}$ $\frac{2}{3}$ $\frac{2}{5}$



c) Are your answers for parts a) and b) the same? Explain.

12. Randi says that $\frac{1}{2}$ of a pie is less than $\frac{1}{10}$ of a pie. Is she correct? Explain.

13. Ray, Hanna, and Lynn each brought 1 cake to school for their year-end class party. None of the cakes are the same size. The teacher cut each cake into 8 equal pieces, so everyone in the class can have a piece. Ray says, "That's not fair at all!" and Lynn says, "That's perfectly fair!"

a) Why does Ray think it's unfair?

b) Why does Lynn think it's fair?

14. a) Write the fractions in the correct category.

$$\frac{3}{4}$$

$$\frac{1}{3}$$

$$\frac{2}{5}$$

$$\frac{4}{6}$$

$$\frac{4}{9}$$

$$\frac{3}{7}$$

$$\frac{7}{8}$$

$$\frac{6}{10}$$

$$\frac{5}{9}$$

$$\frac{2}{3}$$

$$\frac{1}{6}$$

$$\frac{3}{10}$$

0 to $\frac{1}{2}$	$\frac{1}{2}$ to 1
	$\frac{3}{4}$

b) Use the results from part a) to write "<" or ">" in the box between the pair of fractions.

i) $\frac{6}{10}$ $\frac{3}{7}$

ii) $\frac{1}{3}$ $\frac{3}{4}$

iii) $\frac{4}{6}$ $\frac{4}{9}$

iv) $\frac{2}{5}$ $\frac{5}{9}$

v) $\frac{2}{3}$ $\frac{3}{10}$

vi) $\frac{3}{7}$ $\frac{7}{8}$

vii) $\frac{5}{9}$ $\frac{1}{6}$

viii) $\frac{4}{9}$ $\frac{3}{4}$

NS4-49 Equal Parts of a Set

Fractions can name parts of a set:

$\frac{1}{5}$ of the figures are squares, $\frac{1}{5}$ are circles, and $\frac{3}{5}$ are triangles.



1. Write fractions in the blanks.



of the figures are circles.

of the figures are shaded.



of the figures are shaded.

of the figures are triangles.



a) $\frac{5}{8}$ of the figures are _____.

b) $\frac{3}{8}$ of the figures are _____.

3. A soccer team wins 5 games and loses 3 games.

a) How many games did the team play? _____

b) What fraction of the games did the team win?

4. A box contains 4 blue markers, 3 black markers, and 3 red markers.
What fraction of the markers are **not** blue? You can make a picture to help.

5. Write four fraction statements for the picture:

6. Draw a picture that fits all the clues.

a) There are 5 circles and squares.

$\frac{3}{5}$ of the figures are squares.

$\frac{2}{5}$ of the figures are shaded.

Two circles are shaded.

b) There are 5 triangles and squares.

$\frac{3}{5}$ of the figures are shaded.

$\frac{2}{5}$ of the figures are triangles.

One square is shaded.