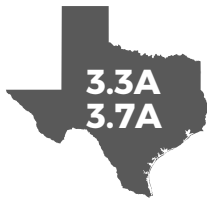


REPRESENTING FRACTIONS



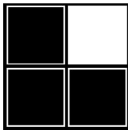
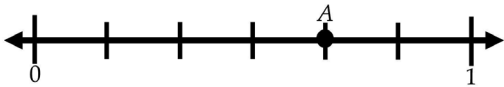
The student is expected to represent fractions greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8 using concrete objects and pictorial models, including strip diagrams and number lines.

The student is expected to represent fractions of halves, fourths, and eighths as distances from zero on a number line.



TELL ME MORE...

Fractions can be represented using several different models like the ones shown.

Area Model	Sometimes you are asked to name the shaded parts and other times you are asked to name the unshaded parts. Three fourths or $\frac{3}{4}$ of the model is shaded. 
Strip Diagram	There are five sixths or $\frac{5}{6}$ of the whole in the model. If one more sixth is added, the length would equal $\frac{6}{6}$ or one whole! 
Set Model	Three eighths or $\frac{3}{8}$ of the stars are grey. 
Number Line	Point A represents four sixths or $\frac{4}{6}$ the distance of the number line. The number line has been partitioned into 6 parts, and the “jump” to point A has gone the distance equal to 4 of those 6 parts. 

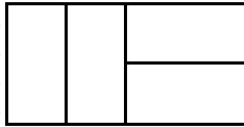


EXAMPLES

EXAMPLE 1: Jermaine's teacher asked him to shade two parts of the whole pictured below and then to name the fraction represented by the model.



STEP 1 Shade two parts of the whole.



STEP 2 Determine the name of the parts.

- The figure was partitioned in half as shown by the bold line below.



- Each half was then partitioned in half which means there are 4 equal parts.

The whole is partitioned into fourths.

STEP 3 Write the fraction.

- There are two fourths shaded.

The fraction represented in the model is $\frac{2}{4}$.

EXAMPLE 2: Darrien's teacher stated that the length of the strip diagram below represents the fraction $\frac{2}{3}$.



Draw the strip diagram that represents the whole.

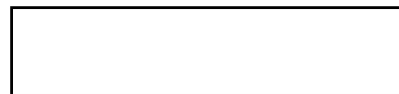
STEP 1 Partition the strip diagram into two equal parts.

- The problem states the given strip diagram represents $\frac{2}{3}$.
- This means the length of the strip diagram represents the numerator.



YOU TRY IT!

The strip diagram below represents one whole.

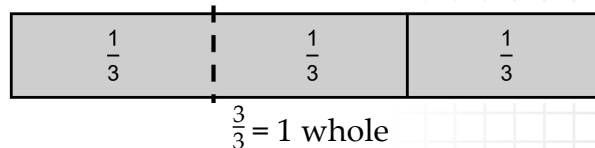


Represent $\frac{3}{8}$ using the strip diagram.

1. Partition the strip diagram into 8 equal parts.
2. Shade 3 parts.

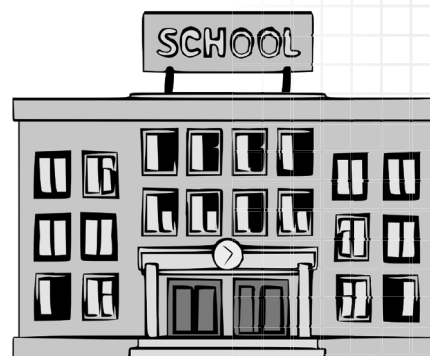
STEP 2 Add one more equal-sized part to the diagram.

- Since the fraction is $\frac{2}{3}$, there needs to be 3 equal sized parts to equal the length of the whole.
- The part that needs to be added to the strip diagram should be the same length as one of the two equal-sized parts shown in step 1.



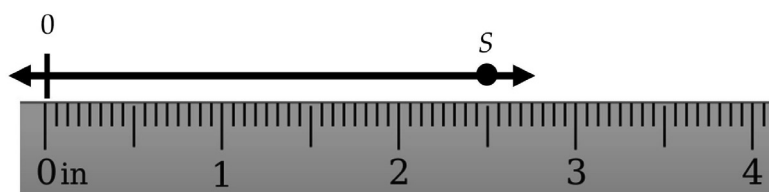
EXAMPLE 3: Point S represents the distance from Quinn's house to the school. In the diagram, 1 inch = 1 mile. Use a ruler to determine the distance from Quinn's house to the school.

Quinn's
house



STEP 1 Use a ruler to measure the distance from 0 or Quinn's house to point S , the school.

Quinn's
house



STEP 2 Determine the mixed number represented by the distance from Quinn's house to the school.

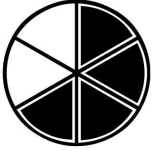
- Each inch is partitioned into 16 equal parts.
- Point S is in between 2 and 3 inches.
- Point S is eight sixteenths past 2 inches.
- Point S is $2\frac{8}{16}$ inches from 0.
- Each inch on the ruler represents one mile in real-world distance.

The distance from Quinn's house to the school is $2\frac{8}{16}$ miles.



PRACTICE

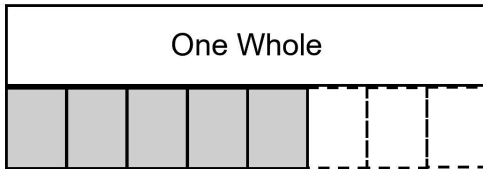
1. Write the fraction represented by the unshaded part below.



2. Write the fraction represented by the unshaded parts below.



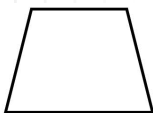
3. Write the fraction represented by the strip diagram below.



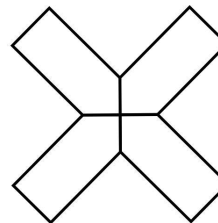
4. What fraction represents the shaded portion of the figure below?



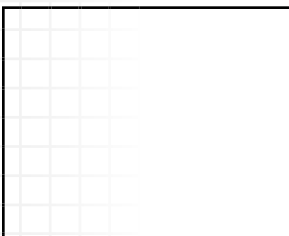
5. Shade $\frac{1}{2}$ of the model below.



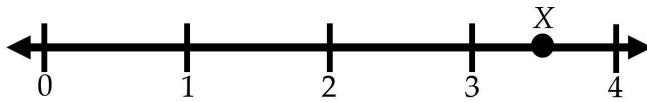
6. Shade $\frac{1}{4}$ of the model below.



7. The model below represents $\frac{3}{4}$ of Robin's bedroom. Draw a model that represents Robin's whole bedroom. Explain your model.



8. The number line represents the number of feet from zero. What is the approximate distance point X is from 0 on the number line below?



9. Carolyn shaded part of the figure shown below.



What fraction of the figure is shaded?

- A $\frac{2}{8}$
 B $\frac{2}{6}$
 C $\frac{6}{8}$
 D $\frac{4}{6}$
10. The number line represents a distance of 1 yard.



On which of these number lines does point X represent $\frac{1}{3}$ yard?

