Name & Surname: _____ Class: _____ Date: _____

Fractions on the Number Line

Plot fractions as numbers from 0 to 1

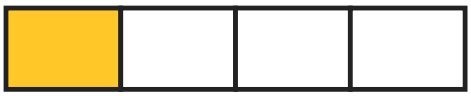
About 50 minutes Level ★★★☆☆

Task A

/5

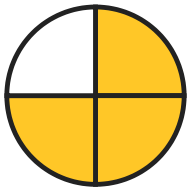
Shade, name, and compare **bars** to see equal parts.

1



Fraction shaded: $\frac{\square}{\square}$

2



Fraction shaded: $\frac{\square}{\square}$

3

Shade $\frac{2}{3}$



4



$= \frac{1}{2}$



$= \frac{\square}{4}$

5



$\frac{3}{4}$



$\frac{2}{4}$

$\frac{3}{4}$ $\square$ $\frac{2}{4}$ Write <, > or =

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Halves Thirds Fourths

Practice finding unit fractions between 0 and 1.

Key words

fraction: part of a whole

denominator: bottom number; total equal parts

number line: line with numbers in order

numerator: top number; parts counted

unit fraction: one equal part, like $\frac{1}{4}$

equal parts: parts that are the same size

Task B

/10

Use 0 to 1 to find unit fractions.

WARM UP

1. The interval from 0 to 1 is split into 4 **equal** parts. What is each small part?

   Answer: _____

2. The interval from 0 to 1 is split into 3 **equal** parts. What fraction is the first mark after 0?

   Answer: _____

3. Count by thirds on a **line**: $\frac{1}{3}$, $\frac{2}{3}$, what comes next?

   Answer: _____

4. What **fraction** names the point at 1 when the line is split into fourths?

   Answer: _____

PRACTICE

5. A 0 to 1 **line** is split into 6 parts. Count 5 jumps from 0. What fraction do you reach?

   Answer: _____

6. A 0 to 1 **line** is split into 8 parts. How many jumps from 0 make $\frac{3}{8}$?

   Answer: _____

7. Which is farther from 0, $\frac{1}{3}$ or $\frac{2}{3}$? Write the larger **fraction**.

   Answer: _____

PROBLEM SOLVING

8. A student walks a straight path from 0 to 1 mile. Marks show every $\frac{1}{4}$ mile. The student stops at the second mark. What **fraction** of a mile is that?

   Answer: _____

9. A 1-yard ribbon shows 0 to 1. It is cut into 2 **equal** pieces. What fraction marks the cut?

   Answer: _____

10. Explain how you know $\frac{3}{4}$ is between 0 and 1. Starter: $\frac{3}{4}$ means 3 out of 4 **equal** parts, so...

    Answer: _____

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Past One Whole

Read sixths and eighths and points at 1.

Task C

/10

Read eighths, sixths, and points past 1.

WARM UP

1 0 to 1 is split into 8 **equal** parts. What fraction is the first mark after 0?

Answer: _____

2 0 to 1 is split into 6 **equal** parts. What fraction is the first mark after 0?

Answer: _____

3 Count by eighths: $\frac{6}{8}$, $\frac{7}{8}$, what **fraction** comes next?

Answer: _____

4 What **fraction** equals 1 when the whole is split into 2 parts?

Answer: _____

PRACTICE

5 A 0 to 1 **line** is split into 6 parts. What fraction is 4 jumps from 0?

Answer: _____

6 The interval from 1 to 2 is split into 3 **equal** parts. What mixed number is the first mark after 1?

Answer: _____

7 Which is closer to 1 on the **line**, $\frac{3}{8}$ or $\frac{7}{8}$? Write the larger fraction.

Answer: _____

PROBLEM SOLVING

8 A paper strip shows 0 to 1. It is folded into 8 **equal** parts. A student colors 5 parts. What fraction is colored?

Answer: _____

9 Two points are at $\frac{2}{6}$ and $\frac{5}{6}$ on the same **line**. How many sixths apart are they?

Answer: _____

10 Explain how you know $\frac{4}{4}$ and 1 are the same **point**. Starter: $\frac{4}{4}$ means 4 out of 4 parts, so...

Answer: _____

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Read and Mark

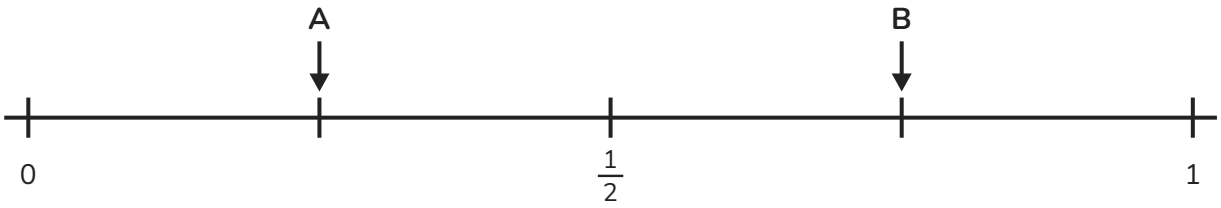
Read arrows and mark fractions on the line.

↑↓ Task D

/6

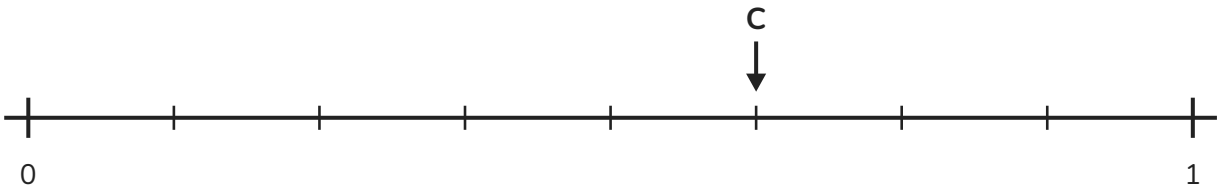
Read arrows and mark points on 0 to 1.

1



A = ☐ B = ☐ Draw an arrow to show: $\frac{1}{2}$

2



C = ☐ Draw an arrow to show: $\frac{3}{8}$, $\frac{7}{8}$

Task E

/2

Find and fix each mistake.



Student A

$\frac{1}{4}$ is greater than $\frac{1}{2}$ because 4 is greater than 2.

What mistake did Student A make? Write the correct fact.



Student B

To plot $\frac{3}{4}$ I count 0, $\frac{1}{4}$, $\frac{2}{4}$ and stop, so 0 counts as the first fourth.

What mistake did Student B make? Write the correct fact.

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Link and Review

Connect fractions, decimals, and percents.

Task F

/8

Write each value as a fraction, a decimal, and a percent.

Fraction	Decimal	Percentage
$\frac{1}{4}$		
$\frac{3}{4}$		
	0.5	
		100%

Task G

/2

Follow the steps to plot fractions.

WORKED EXAMPLE

Plot $\frac{3}{4}$ on a 0 to 1 line.

1. Split 0 to 1 into 4 equal parts.
2. Each part is $\frac{1}{4}$.
3. Count 3 jumps from 0: $\frac{1}{4}$, $\frac{2}{4}$, $\frac{3}{4}$. Mark $\frac{3}{4}$.

Answer: $\frac{3}{4}$

YOUR TURN

Plot $\frac{2}{3}$ on a 0 to 1 line split into thirds. What fraction is 2 jumps from 0?

Answer: _____

WORKED EXAMPLE

Find the fraction at the second mark on a 0 to 1 line split into 6 parts.

1. Denominator is 6, so marks are sixths.
2. Count marks from 0: $\frac{1}{6}$, $\frac{2}{6}$.
3. The point is $\frac{2}{6}$.

Answer: $\frac{2}{6}$

YOUR TURN

Find the fraction at the fifth mark on a 0 to 1 line split into 8 parts.

Answer: _____

How did I do?

Circle a face for each line.

I can show $\frac{1}{b}$ by splitting 0 to 1 into b equal parts.

I can plot a/b by counting a jumps of $\frac{1}{b}$ from 0.

I can read fractions on a number line and tell which is greater.

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Answer sheet: Fractions on the Number Line

Task A

1. $\frac{1}{4}$
2. $\frac{3}{4}$
3. Shade 2 of the 3 equal parts ($\frac{2}{3}$).
4. $\frac{1}{2} = \frac{2}{4}$ (shade 2 parts)
5. $\frac{3}{4} > \frac{2}{4}$

Task B

1. $\frac{1}{4}$
2. $\frac{1}{3}$
3. $\frac{3}{3}$
4. $\frac{4}{4}$
5. $\frac{5}{6}$
6. 3
7. $\frac{2}{3}$
8. $\frac{2}{4}$
9. $\frac{1}{2}$
10. $\frac{3}{4}$ means 3 out of 4 equal parts, so it is less than $\frac{4}{4}$, which is 1, and greater than 0.

Task C

1. $\frac{1}{8}$
2. $\frac{1}{6}$
3. $\frac{8}{8}$
4. $\frac{2}{2}$
5. $\frac{4}{6}$
6. $1\frac{1}{3}$
7. $\frac{7}{8}$
8. $\frac{5}{8}$
9. $\frac{3}{6}$
10. $\frac{4}{4}$ means 4 out of 4 equal parts, so it fills the whole from 0 to 1, which ends at 1.

Task D

1. A = $\frac{1}{4}$; B = $\frac{3}{4}$; arrows at $\frac{1}{2}$
2. C = $\frac{5}{8}$; arrows at $\frac{3}{8}$, $\frac{7}{8}$

Task E

1. Student A: Wrong to compare denominators like whole numbers. With the same whole, more parts means smaller parts. On a 0 to 1 line, $\frac{1}{4}$ is left of $\frac{1}{2}$, so $\frac{1}{4} < \frac{1}{2}$.

2. Student B: Wrong to count 0 as a jump. Count spaces from 0: 1 jump is $\frac{1}{4}$, 2 jumps is $\frac{2}{4}$, 3 jumps is $\frac{3}{4}$. The endpoint shows the distance from 0.

Task F

1. $\frac{1}{4} = 0.25 = 25\%$
2. $\frac{3}{4} = 0.75 = 75\%$
3. $\frac{1}{2} = 0.5 = 50\%$
4. $\frac{1}{1} = 1 = 100\%$

Task G

1. $\frac{2}{3}$
2. $\frac{5}{8}$

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