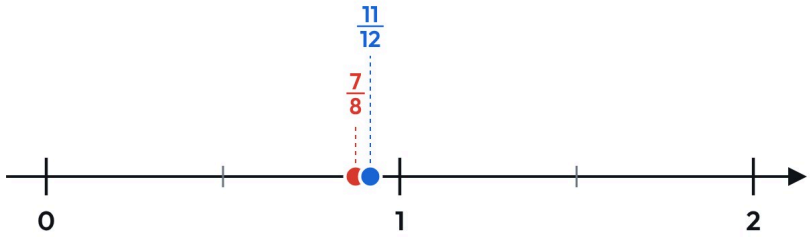
Name _____ Date _____

Estimating Sums and Differences

Example



Both $\frac{11}{12}$ and $\frac{7}{8}$ are **close to 1**, so the sum $\frac{11}{12} + \frac{7}{8}$ is **close to 2**.

The answer $\frac{18}{20}$ cannot be right: it is less than 1, and $\frac{11}{12}$ on its own is almost 1.

1 ON YOUR OWN Is the fraction close to 0, $\frac{1}{2}$ or 1? Tick.

	$\frac{1}{9}$	$\frac{6}{11}$	$\frac{9}{10}$	$\frac{1}{12}$	$\frac{4}{9}$	$\frac{11}{12}$	$\frac{7}{12}$	$\frac{8}{9}$
close to 0	☐	☐	☐	☐	☐	☐	☐	☐
close to $\frac{1}{2}$	☐	☐	☐	☐	☐	☐	☐	☐
close to 1	☐	☐	☐	☐	☐	☐	☐	☐

2 ON YOUR OWN Estimate without calculating. Which number is the answer closest to? Tick.

	0	$\frac{1}{2}$	1	$1\frac{1}{2}$	2
$\frac{11}{12} + \frac{7}{8}$	☐	☐	☐	☐	☐
$\frac{1}{10} + \frac{5}{9}$	☐	☐	☐	☐	☐
$\frac{9}{10} - \frac{1}{12}$	☐	☐	☐	☐	☐
$\frac{6}{11} + \frac{4}{9}$	☐	☐	☐	☐	☐
$\frac{11}{12} - \frac{1}{2}$	☐	☐	☐	☐	☐
$\frac{8}{9} + \frac{6}{11}$	☐	☐	☐	☐	☐
$\frac{1}{9} + \frac{1}{12}$	☐	☐	☐	☐	☐

Names (pair) _____ Date _____

Remember

Before you calculate, **estimate**: replace each fraction with 0, $\frac{1}{2}$ or 1, whichever it is close to. If the answer is very different from your estimate, check your working.

3 IN PAIRS **Who is right?** Luke worked out $\frac{1}{2} + \frac{1}{3} = \frac{2}{5}$. Emma says it cannot be right, and she did not calculate anything. How did Emma decide?

4 IN PAIRS Iva worked out $\frac{3}{4} - \frac{1}{2} = \frac{2}{2} = 1$. Without calculating, explain why the answer cannot be 1.

5 IN PAIRS Only one answer can be right. Circle it without calculating.

$\frac{11}{12} + \frac{7}{8} = \frac{18}{20}$ or $\frac{43}{24}$ or $\frac{77}{96}$

$\frac{5}{6} - \frac{1}{4} = \frac{4}{2}$ or $\frac{7}{12}$ or $\frac{1}{24}$

$\frac{1}{2} + \frac{4}{9} = \frac{5}{11}$ or $\frac{17}{18}$ or $\frac{5}{18}$

6 ON YOUR OWN Make up two fractions with different denominators whose sum is close to 1, but neither is close to $\frac{1}{2}$.

$\frac{\square}{\square} + \frac{\square}{\square}$ is close to 1

The Number Line app · otooly.com/number-line

Enter both fractions and see which number each is close to. Turn on **Distance** to see how far a fraction is from 1.

★ ON YOUR OWN **Exit card.** Estimate $\frac{7}{8} + \frac{9}{10}$ and $\frac{5}{9} - \frac{1}{10}$. Explain one estimate.