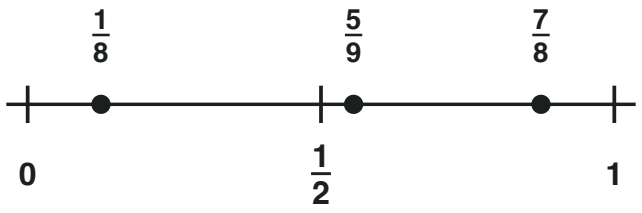
Estimating with Benchmark Fractions

Name: _____

Grade 5 · Round fractions to 0, ½ or 1 and use them to estimate sums and differences

How it works



Compare the top number with the bottom number.

Close to 0: the top is tiny next to the bottom ($\frac{1}{8}$).

Close to $\frac{1}{2}$: the top is about half the bottom ($\frac{5}{9}$).

Close to 1: the top is nearly the bottom ($\frac{7}{8}$).

Estimate $\frac{7}{8} + \frac{5}{9}$ with benchmarks:

$1 + \frac{1}{2} = 1\frac{1}{2}$.

A. Is each fraction closest to 0, ½ or 1? Circle it.

1.	$\frac{1}{9}$	0	$\frac{1}{2}$	1	2.	$\frac{7}{8}$	0	$\frac{1}{2}$	1	3.	$\frac{4}{7}$	0	$\frac{1}{2}$	1
4.	$\frac{1}{10}$	0	$\frac{1}{2}$	1	5.	$\frac{9}{10}$	0	$\frac{1}{2}$	1	6.	$\frac{6}{13}$	0	$\frac{1}{2}$	1
7.	$\frac{3}{5}$	0	$\frac{1}{2}$	1	8.	$\frac{11}{12}$	0	$\frac{1}{2}$	1	9.	$\frac{2}{15}$	0	$\frac{1}{2}$	1
10.	$\frac{5}{6}$	0	$\frac{1}{2}$	1	11.	$\frac{7}{12}$	0	$\frac{1}{2}$	1	12.	$\frac{1}{7}$	0	$\frac{1}{2}$	1

B. Round each fraction to 0, ½ or 1. Then estimate the answer.

13. $\frac{8}{9} + \frac{7}{12} \approx$ ☐ + ☐ = ☐

14. $\frac{1}{10} + \frac{11}{12} \approx$ ☐ + ☐ = ☐

15. $\frac{4}{9} + \frac{5}{8} \approx$ ☐ + ☐ = ☐

16. $\frac{9}{10} + \frac{7}{8} \approx$ ☐ + ☐ = ☐

17. $\frac{11}{12} - \frac{1}{9} \approx$ ☐ − ☐ = ☐

18. $\frac{8}{9} - \frac{3}{8} \approx$ ☐ − ☐ = ☐

19. $\frac{5}{9} - \frac{1}{12} \approx$ ☐ − ☐ = ☐

20. $\frac{7}{8} - \frac{4}{9} \approx$ ☐ − ☐ = ☐

C. Use benchmarks. Could each answer be right? Circle yes or no.

21. Ana says $\frac{1}{2} + \frac{1}{3} = \frac{2}{5}$ — yes / no

22. Ben says $\frac{7}{8} + \frac{1}{12} = \frac{23}{24}$ — yes / no

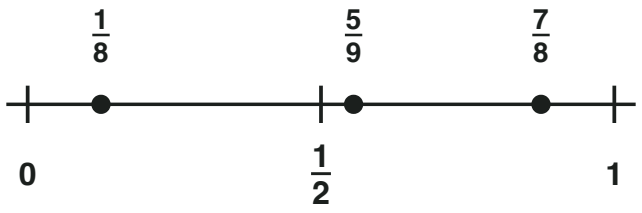
23. Cal says $\frac{1}{9} + \frac{5}{12} = \frac{19}{36}$ — yes / no

24. Dee says $\frac{4}{9} + \frac{5}{8} = \frac{9}{17}$ — yes / no

Estimating with Benchmark Fractions (Answer Key)

Grade 5 · Round fractions to 0, ½ or 1 and use them to estimate sums and differences

How it works



Compare the top number with the bottom number.

Close to 0: the top is tiny next to the bottom ($\frac{1}{8}$).

Close to ½: the top is about half the bottom ($\frac{5}{9}$).

Close to 1: the top is nearly the bottom ($\frac{7}{8}$).

Estimate $\frac{7}{8} + \frac{5}{9}$ with benchmarks:

$1 + \frac{1}{2} = 1\frac{1}{2}$.

A. Is each fraction closest to 0, ½ or 1? Circle it.

		0	½	1
1.	$\frac{1}{9}$	**(0)**	½	1
2.	$\frac{7}{8}$	0	½	**(1)**
3.	$\frac{4}{7}$	0	**(½)**	1
4.	$\frac{1}{10}$	**(0)**	½	1
5.	$\frac{9}{10}$	0	½	**(1)**
6.	$\frac{6}{13}$	0	**(½)**	1
7.	$\frac{3}{5}$	0	**(½)**	1
8.	$\frac{11}{12}$	0	½	**(1)**
9.	$\frac{2}{15}$	**(0)**	½	1
10.	$\frac{5}{6}$	0	½	**(1)**
11.	$\frac{7}{12}$	0	**(½)**	1
12.	$\frac{1}{7}$	**(0)**	½	1

B. Round each fraction to 0, ½ or 1. Then estimate the answer.

13. $\frac{8}{9} + \frac{7}{12} \approx$ [1] + [½] = [$1\frac{1}{2}$]

14. $\frac{1}{10} + \frac{11}{12} \approx$ [0] + [1] = [1]

15. $\frac{4}{9} + \frac{5}{8} \approx$ [½] + [½] = [1]

16. $\frac{9}{10} + \frac{7}{8} \approx$ [1] + [1] = [2]

17. $\frac{11}{12} - \frac{1}{9} \approx$ [1] − [0] = [1]

18. $\frac{8}{9} - \frac{3}{8} \approx$ [1] − [½] = [½]

19. $\frac{5}{9} - \frac{1}{12} \approx$ [½] − [0] = [½]

20. $\frac{7}{8} - \frac{4}{9} \approx$ [1] − [½] = [½]

C. Use benchmarks. Could each answer be right? Circle yes or no.

21. Ana says $\frac{1}{2} + \frac{1}{3} = \frac{2}{5}$ — yes **(no)**

22. Ben says $\frac{7}{8} + \frac{1}{12} = \frac{23}{24}$ — **(yes)** no

23. Cal says $\frac{1}{9} + \frac{5}{12} = \frac{19}{36}$ — **(yes)** no

24. Dee says $\frac{4}{9} + \frac{5}{8} = \frac{9}{17}$ — yes **(no)**

In C, a "no" answer is far from the benchmark estimate: 1/2 + 1/3 is more than 1/2, and 4/9 + 5/8 is about 1. A "yes" answer is close to its estimate.