

Estimate fraction sums and differences

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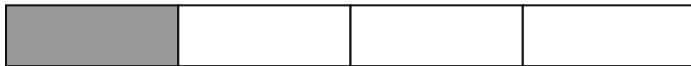
Use the explanations to discuss the idea. A worked answer is one example; equivalent answers may also be valid.

1. Is $\frac{1}{4} + \frac{1}{5}$ less than, equal to, or greater than 1?

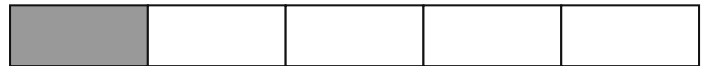
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$\frac{1}{4} + \frac{1}{5} = \frac{5}{20} + \frac{4}{20} = \frac{9}{20}$. This is less than 1.

$\frac{1}{4}$



$\frac{1}{5}$



2. Is $\frac{6}{10} + \frac{3}{4}$ less than, equal to, or greater than 1?

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$\frac{6}{10} + \frac{3}{4} = \frac{12}{20} + \frac{15}{20} = \frac{27}{20} = 1 \frac{7}{20}$. This is greater than 1.

$\frac{6}{10}$



$\frac{3}{4}$



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3. Is $1/2 - 1/8$ less than, equal to, or greater than $1/2$?

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$1/2 - 1/8 = 4/8 - 1/8 = 3/8$. This is less than $1/2$.

1/2



1/8



4. Is $10/12 - 2/9$ less than, equal to, or greater than $1/2$?

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$10/12 - 2/9 = 30/36 - 8/36 = 22/36$. This is greater than $1/2$.

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5. Is $\frac{1}{2} + \frac{10}{11}$ less than, equal to, or greater than 1?

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$\frac{1}{2} + \frac{10}{11} = \frac{11}{22} + \frac{20}{22} = \frac{31}{22} = 1 \frac{9}{22}$. This is greater than 1.

6. Is $\frac{7}{9} - \frac{1}{2}$ less than, equal to, or greater than $\frac{1}{2}$? Which reason would help you solve this correctly?

Use one half and one whole as benchmarks. If it is close, rename the fractions to check the boundary exactly.

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7. A jug holds $10/12$ liters. You pour out $2/3$ liters. Is the result less than, equal to, or greater than $1/2$ liter?

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$10/12 - 2/3 = 10/12 - 8/12 = 1/6$. This is less than $1/2$. The answer is in liters.

8. Find $6/8 + 1/8$.

$7/8$

$6/8 + 1/8 = 6/8 + 1/8 = 7/8$.