

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 $8/11 + 1/3$ less than, equal to, or greater than 1?

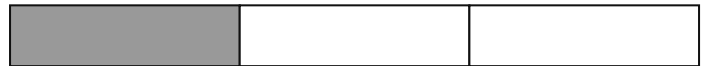
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$8/11 + 1/3 = 24/33 + 11/33 = 35/33 = 1 \frac{2}{33}$. This is greater than 1.

8/11



1/3



2. Is $7/11 - 2/4$ less than, equal to, or greater than $1/2$?

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$7/11 - 2/4 = 28/44 - 22/44 = 6/44 = 3/22$. This is less than $1/2$.

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3. Is $5/6 + 1/2$ less than, equal to, or greater than 1?

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$5/6 + 1/2 = 5/6 + 3/6 = 4/3 = 1 \frac{1}{3}$. This is greater than 1.

4. Is $2/3 - 5/9$ less than, equal to, or greater than $1/2$? 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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5. Two ribbon lengths measure $\frac{2}{4}$ meters and $\frac{3}{5}$ meters. Is the result less than, equal to, or greater than 1 meter?

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$\frac{2}{4} + \frac{3}{5} = \frac{10}{20} + \frac{12}{20} = \frac{22}{20} = 1\frac{1}{10}$. This is greater than 1. The answer is in meters.

6. A ribbon is $\frac{6}{8}$ meters long. You cut off $\frac{1}{2}$ meters. Is the result less than, equal to, or greater than $\frac{1}{2}$ meter?

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$\frac{6}{8} - \frac{1}{2} = \frac{6}{8} - \frac{4}{8} = \frac{2}{8} = \frac{1}{4}$. This is less than $\frac{1}{2}$. The answer is in meters.

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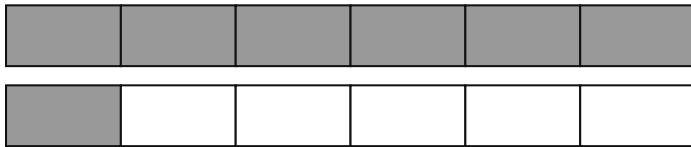
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7. Compare $\frac{7}{6}$ $\underline{\hspace{1cm}}$ $\frac{4}{8}$ of the same-sized whole.

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$\frac{7}{6} > \frac{4}{8}$. Rename both with denominator 48: $\frac{56}{48}$ and $\frac{24}{48}$. Now each piece is the same size, so compare 56 and 24.

$\frac{7}{6}$



$\frac{4}{8}$



8. Compare $\frac{1}{2}$ $\underline{\hspace{1cm}}$ $\frac{2}{12}$ of the same-sized whole.

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$\frac{1}{2} > \frac{2}{12}$. Rename both with denominator 24: $\frac{12}{24}$ and $\frac{4}{24}$. Now each piece is the same size, so compare 12 and 4.

$\frac{1}{2}$



$\frac{2}{12}$

