Practice  Video  Tools  Games

## Another Look!

Estimate $\frac{10}{12} - \frac{4}{9}$.

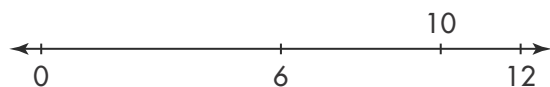You can use halfway numbers to help decide if each fraction is closest to 0, to $\frac{1}{2}$, or to 1.

### Step 1

Is $\frac{10}{12}$ closest to 0, $\frac{1}{2}$, or 1?

Find the halfway number between 0 and the denominator.

6 is halfway between 0 and 12.

Decide if the numerator is about the same as the halfway number, closer to 0, or closer to 12.

```
    0        6       12
```
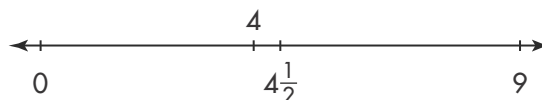10

10 is closest to 12.

So, $\frac{10}{12}$ is closest to 1.

### Step 2

Is $\frac{4}{9}$ closest to 0, $\frac{1}{2}$, or 1?

If the numerator is closest to the halfway number, the fraction is closest to $\frac{1}{2}$.

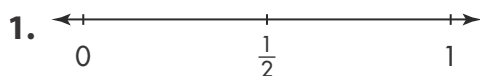$4\frac{1}{2}$ is halfway between 0 and 9.

```
    0       4½        9
```
4

4 is closest to $4\frac{1}{2}$.

So, $\frac{4}{9}$ is closest to $\frac{1}{2}$.

$\frac{10}{12} - \frac{4}{9}$ is about $1 - \frac{1}{2} = \frac{1}{2}$.

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**Leveled Practice** In **1–7**, estimate each sum or difference by replacing each fraction with 0, $\frac{1}{2}$, or 1.

**1.**
```
    0        ½         1
```

$\frac{4}{18} + \frac{3}{7}$

$\frac{4}{18}$ **Closest to:** _____

$\frac{3}{7}$ **Closest to:** _____

**Estimate:**

_____ + _____ = _____

**2.** $\frac{8}{15} + \frac{2}{5}$

**3.** $\frac{17}{21} - \frac{2}{10}$

**4.** $\frac{8}{10} + \frac{4}{9}$

**5.** $\frac{12}{15} - \frac{3}{7}$

**6.** $\frac{15}{20} + \frac{7}{8}$

**7.** $\frac{8}{14} - \frac{4}{10}$

8. Sam and Lou need a total of 1 foot of wire for a science project. Sam's wire measured $\frac{8}{12}$-foot long. Lou's wire measured $\frac{7}{8}$-foot long. Do they have enough wire for the science project? Explain your reasoning.

9. **Construct Arguments** Katya measured the growth of a plant seedling. The seedling grew $\frac{1}{3}$ inch by the end of the first week and another $\frac{5}{6}$ inch by the end of the second week. About how much did the seedling grow in the first 2 weeks? Explain how you made your estimate.

10. A scientist measured the amount of rain that fell in a town during one month. How much more rainfall was there in Week 4 than in Week 1?

| March Rainfall | |
|---|---|
| Week | Millimeters |
| 1 | 2.6 |
| 2 | 3.32 |
| 3 | 4.06 |
| 4 | 4.07 |

DATA

11. **Higher Order Thinking** Jack is growing Red Wiggler worms to help make compost. He measured the lengths of two young worms. The 10-day old worm is $\frac{10}{12}$ inch long. The 20-day old worm is $1\frac{4}{6}$ inches long. About how much longer is the 20-day old worm than the 10-day old worm? Explain how you found your estimate.
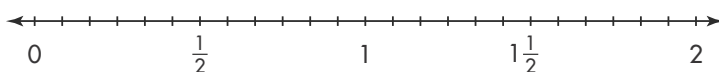
You can use the number line.



0     $\frac{1}{2}$     1     $1\frac{1}{2}$     2

☑ **Assessment Practice**

12. Julia has to mow two yards. She will need $\frac{13}{16}$ gallon of gas to mow the first yard and $\frac{2}{5}$ gallon to mow the second yard. She has $1\frac{1}{2}$ gallons of gas in her can. Does she have enough to mow both yards? Explain.