Reading a Ruler

The ruler below measures from 0 to 1.

0 **1**

| 1/2 | 1/2 |
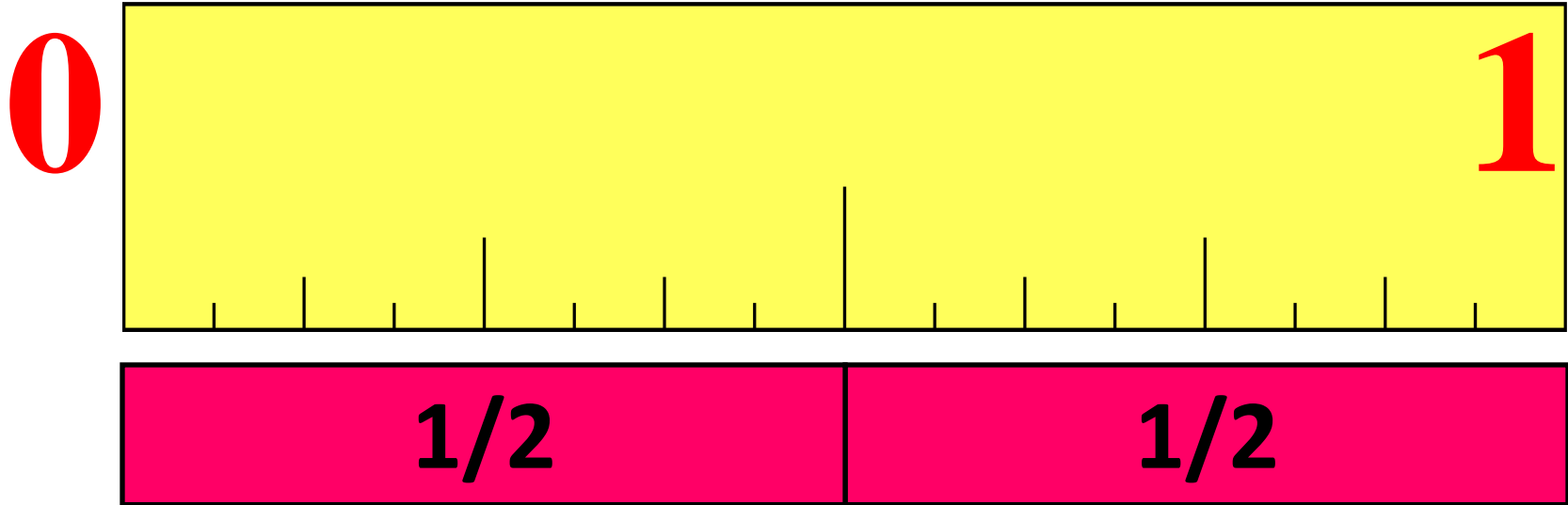
Divide the distance from 0 to 1 into 2 equal pieces. Each piece is ½ the total distance.

We start measuring at 0 and move toward 1.

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

| 1/2 | 1/2 |

➡️
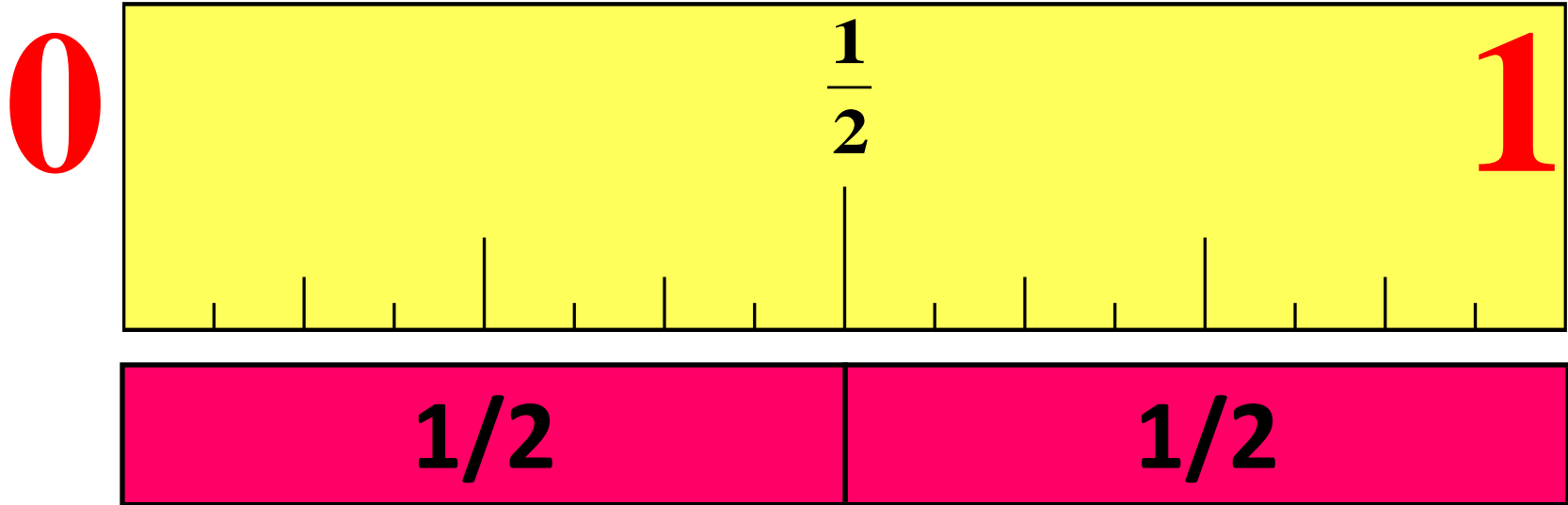
This screw is ½ inch long.

Divide the distance from 0 to 1 into 4 equal pieces. Each piece is 1/4 the total distance.

0 $\dfrac{1}{2}$ **1**

| 1/4 | 1/4 | 1/4 | 1/4 |

➡
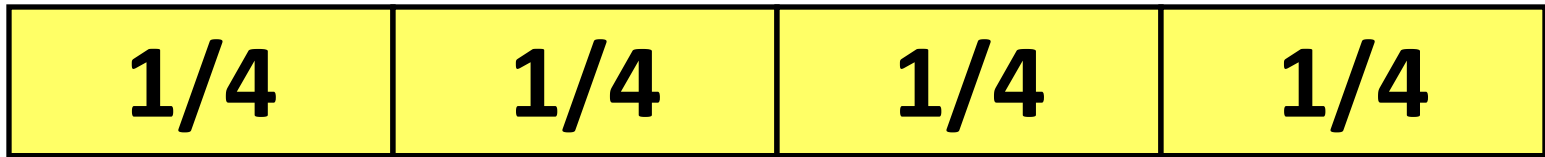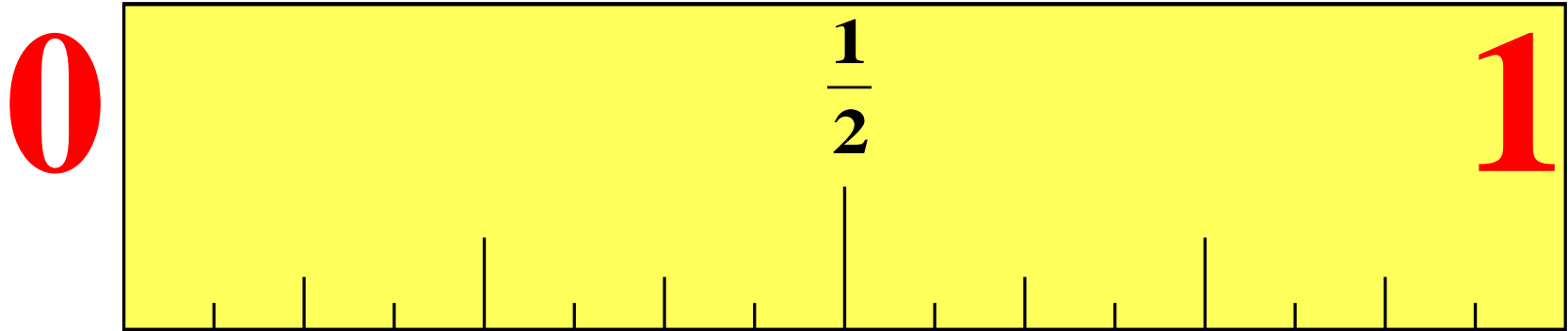
$\dfrac{1}{4}$ $\dfrac{2}{4}$ $\dfrac{3}{4}$ $\dfrac{4}{4}$

We still call the tallest line ½.

The next tallest lines are both fourths: ¼ and ¾.

| 1/4 | 1/4 | 1/4 | 1/4 |

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

$\frac{1}{4}$ $\frac{2}{4}$ $\frac{3}{4}$ $\frac{4}{4}$

What about 2/4? That's the same thing as 1/2.

Divide the distance from 0 to 1 into 8 equal pieces. Each piece is 1/8 the total distance.
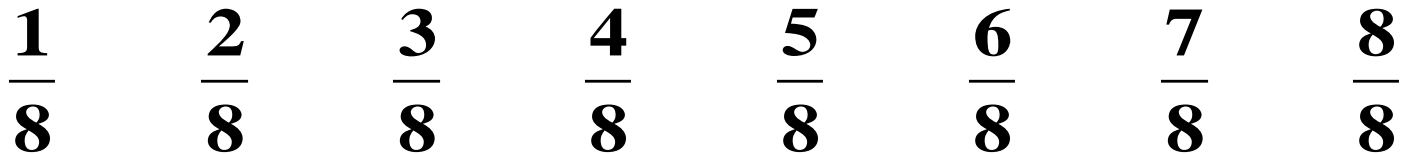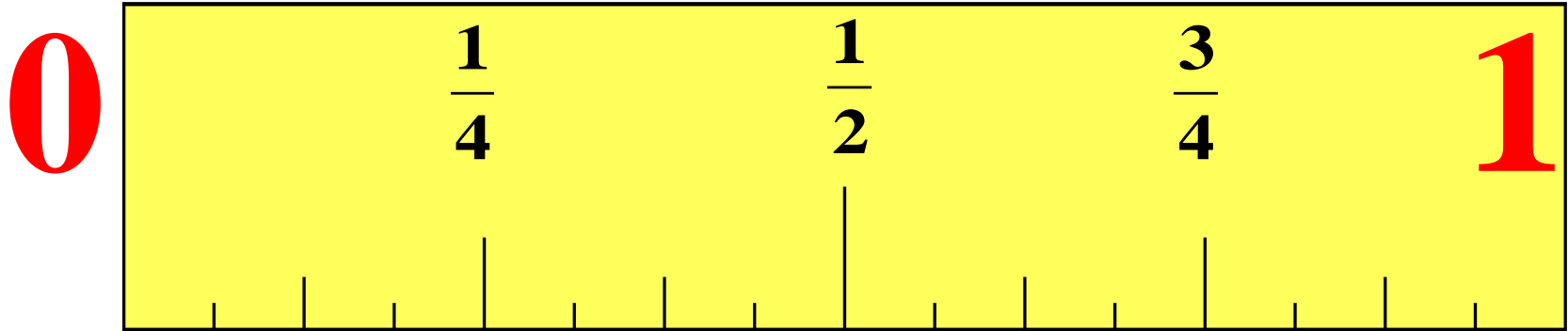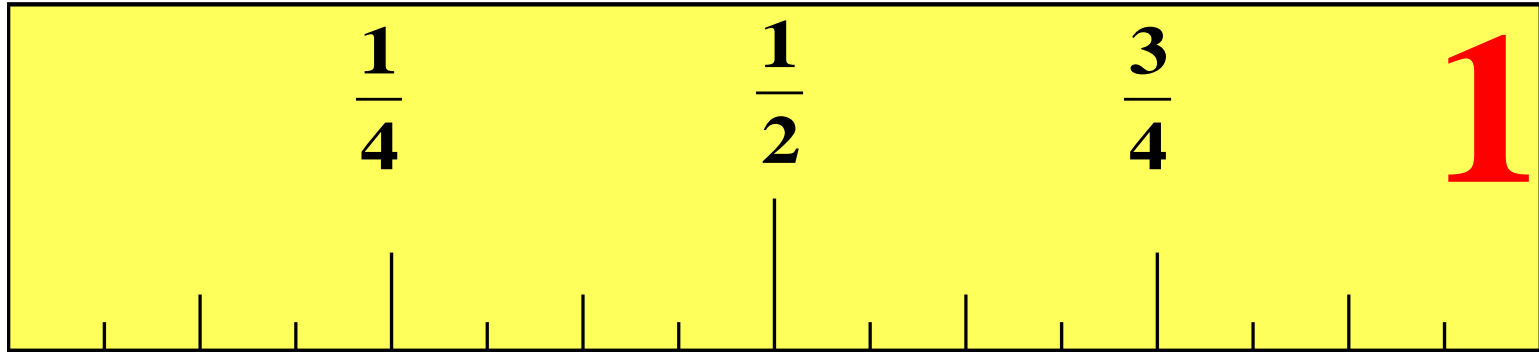
0
$$\frac{1}{4} \qquad \frac{1}{2} \qquad \frac{3}{4}$$
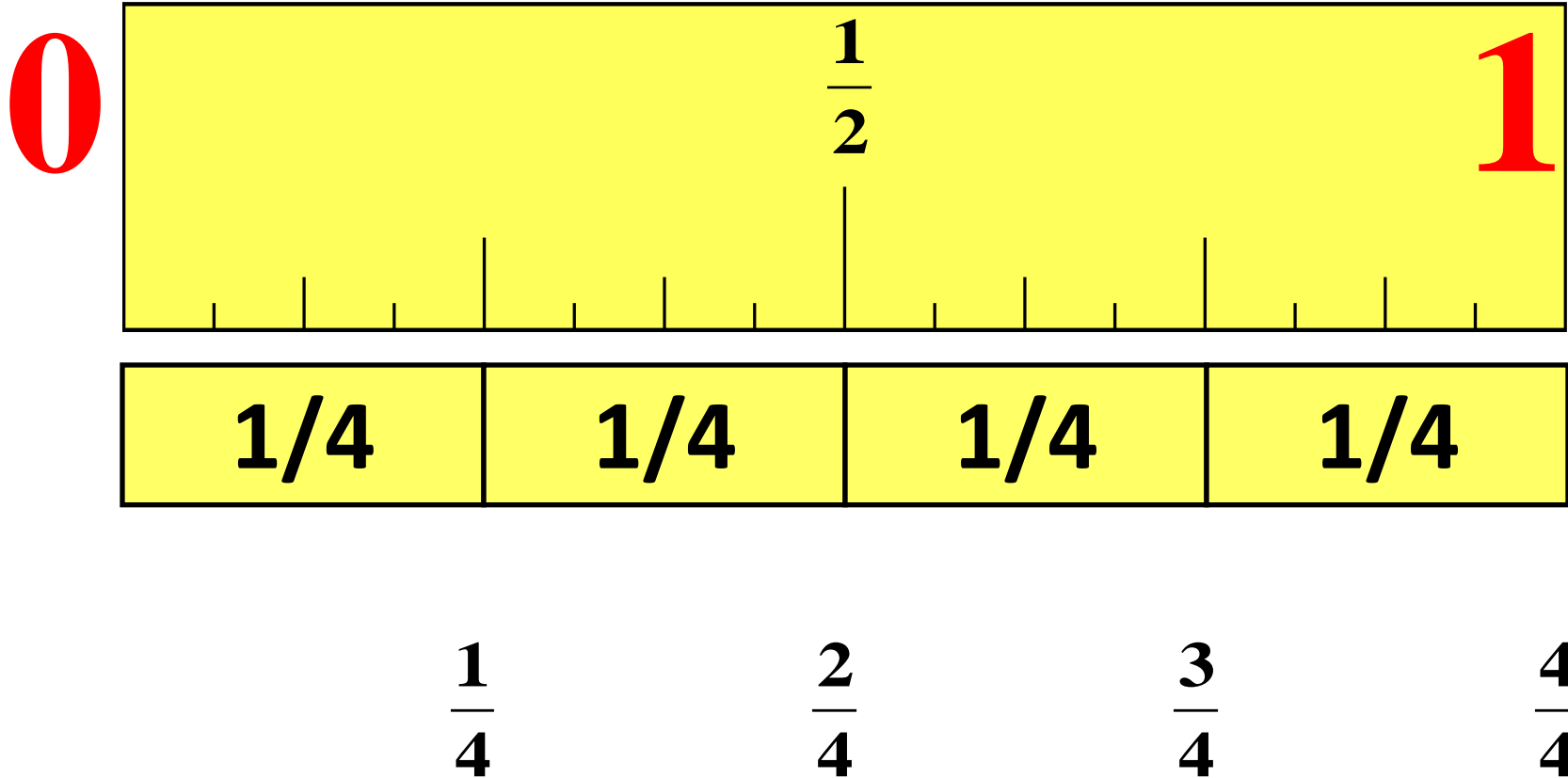**1**

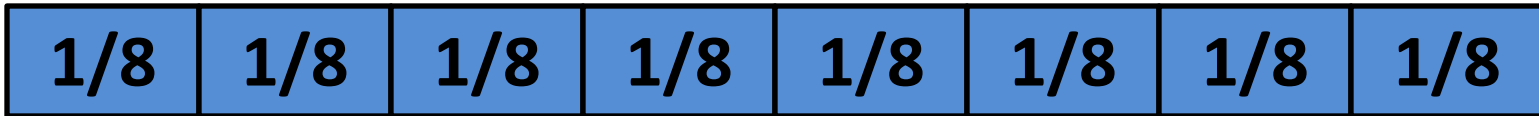| 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 |

➡

$$\frac{1}{8} \qquad \frac{2}{8} \qquad \frac{3}{8} \qquad \frac{4}{8} \qquad \frac{5}{8} \qquad \frac{6}{8} \qquad \frac{7}{8} \qquad \frac{8}{8}$$

The second shortest lines are all eighths: 1/8, 3/8, 5/8, and 7/8.

0 $\dfrac{1}{4}$ $\dfrac{1}{2}$ $\dfrac{3}{4}$ **1**

| 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 |

$$\dfrac{1}{8} \quad \dfrac{2}{8} \quad \dfrac{3}{8} \quad \dfrac{4}{8} \quad \dfrac{5}{8} \quad \dfrac{6}{8} \quad \dfrac{7}{8} \quad \dfrac{8}{8}$$

The second shortest lines are all eighths:
1/8, 3/8, 5/8, and 7/8.

0 | $\dfrac{1}{8}$ | $\dfrac{1}{4}$ | $\dfrac{3}{8}$ | $\dfrac{1}{2}$ | $\dfrac{5}{8}$ | $\dfrac{3}{4}$ | $\dfrac{7}{8}$ | **1**

| 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 |
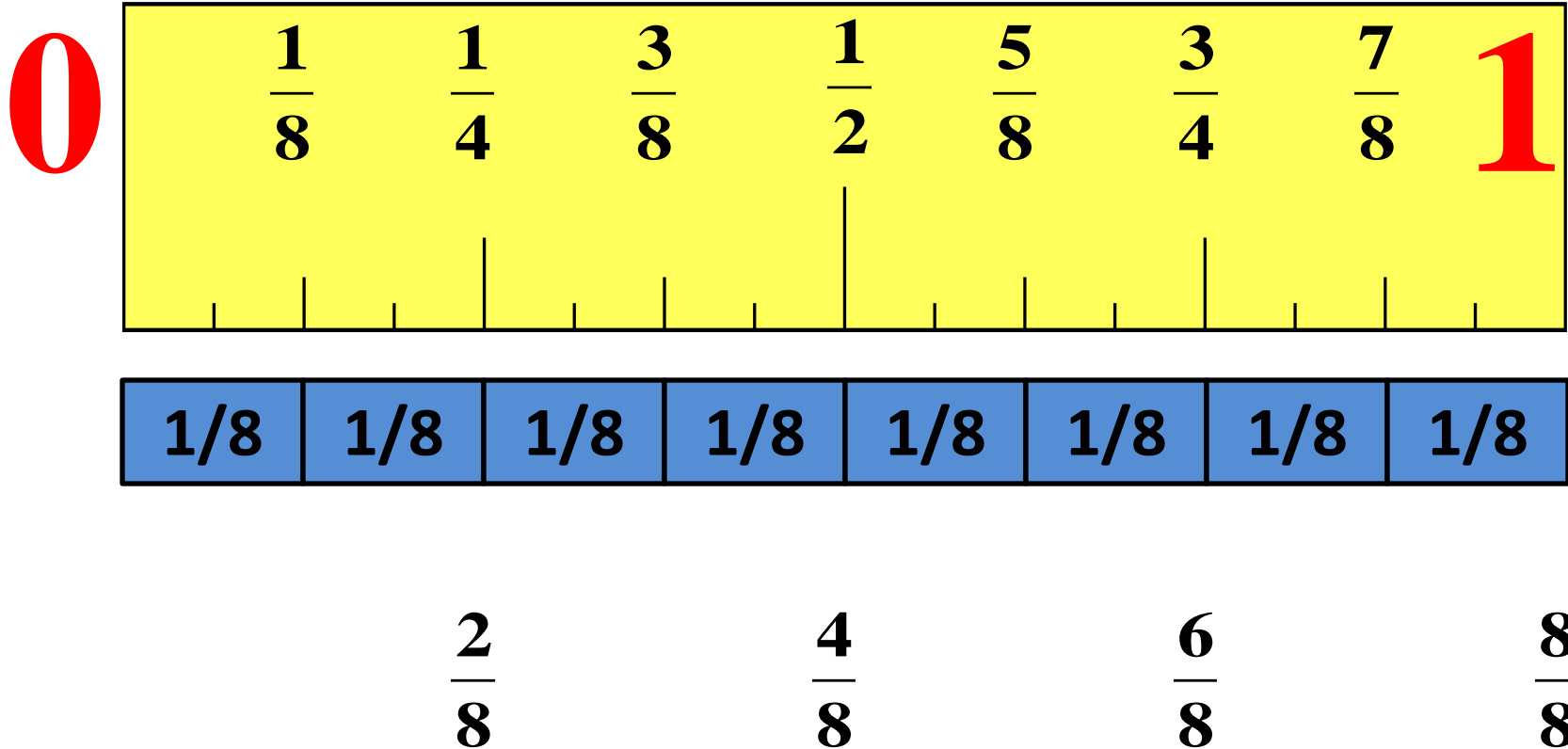
$$\dfrac{2}{8} \qquad \dfrac{4}{8} \qquad \dfrac{6}{8} \qquad \dfrac{8}{8}$$

What about 2/8? That is the same thing as 1/4.

The second shortest lines are all eighths:
1/8, 3/8, 5/8, and 7/8.

0 $\frac{1}{8}$ $\frac{1}{4}$ $\frac{3}{8}$ $\frac{1}{2}$ $\frac{5}{8}$ $\frac{3}{4}$ $\frac{7}{8}$ **1**

| 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 |
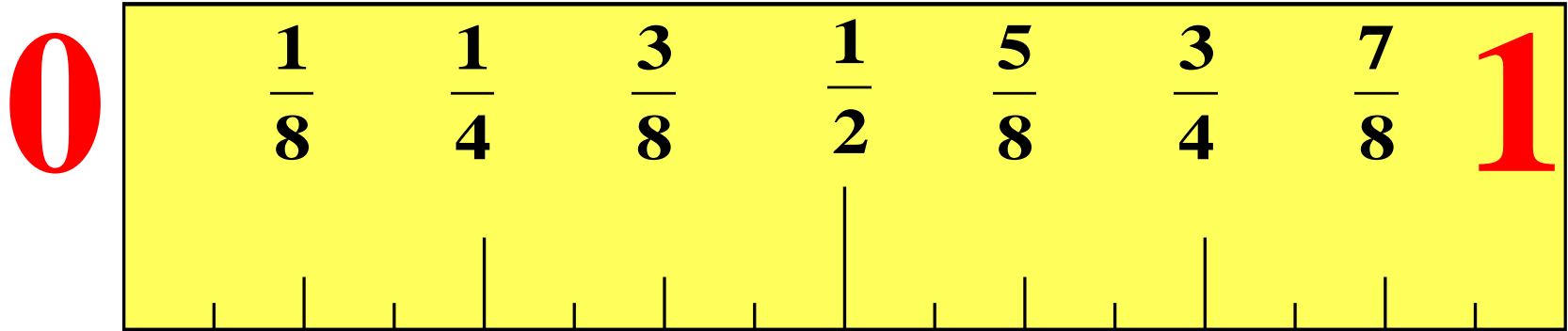
$\frac{4}{8}$ $\frac{6}{8}$ $\frac{8}{8}$

What about 4/8? That is the same thing as 1/2.

The second shortest lines are all eighths:
1/8, 3/8, 5/8, and 7/8.

0 $\frac{1}{8}$ $\frac{1}{4}$ $\frac{3}{8}$ $\frac{1}{2}$ $\frac{5}{8}$ $\frac{3}{4}$ $\frac{7}{8}$ **1**

| 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 |
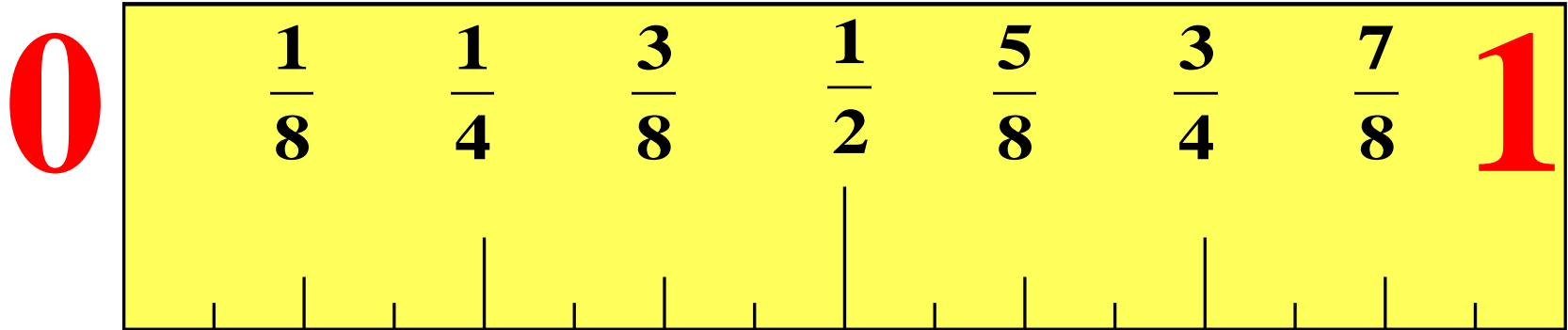
$\frac{6}{8}$ $\frac{8}{8}$

What about 6/8? That is the same thing as 3/4.

The second shortest lines are all eighths:
1/8, 3/8, 5/8, and 7/8.

0 $\dfrac{1}{8}$ $\dfrac{1}{4}$ $\dfrac{3}{8}$ $\dfrac{1}{2}$ $\dfrac{5}{8}$ $\dfrac{3}{4}$ $\dfrac{7}{8}$ **1**

1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8
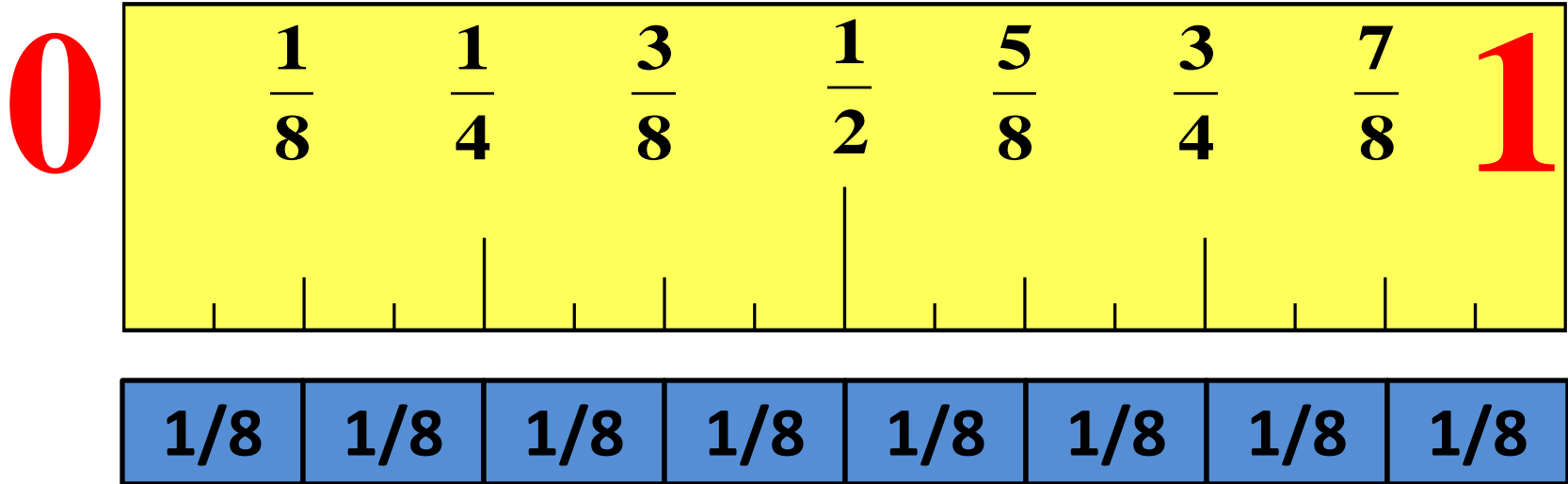
$$\dfrac{8}{8}$$

What about 8/8? That is the same thing as 1.

Divide the distance from 0 to 1 into 16 equal pieces. Each piece is 1/16 the total distance.

0 $\frac{1}{8}$ $\frac{1}{4}$ $\frac{3}{8}$ $\frac{1}{2}$ $\frac{5}{8}$ $\frac{3}{4}$ $\frac{7}{8}$ **1**

| $\frac{1}{16}$ | $\frac{1}{16}$ | $\frac{1}{16}$ | $\frac{1}{16}$ | $\frac{1}{16}$ | $\frac{1}{16}$ | $\frac{1}{16}$ | $\frac{1}{16}$ | $\frac{1}{16}$ | $\frac{1}{16}$ | $\frac{1}{16}$ | $\frac{1}{16}$ | $\frac{1}{16}$ | $\frac{1}{16}$ | $\frac{1}{16}$ | $\frac{1}{16}$ |

$\frac{1}{16}$ $\frac{2}{16}$ $\frac{3}{16}$ $\frac{4}{16}$ $\frac{5}{16}$ $\frac{6}{16}$ $\frac{7}{16}$ $\frac{8}{16}$ $\frac{9}{16}$ $\frac{10}{16}$ $\frac{11}{16}$ $\frac{12}{16}$ $\frac{13}{16}$ $\frac{14}{16}$ $\frac{15}{16}$ $\frac{16}{16}$
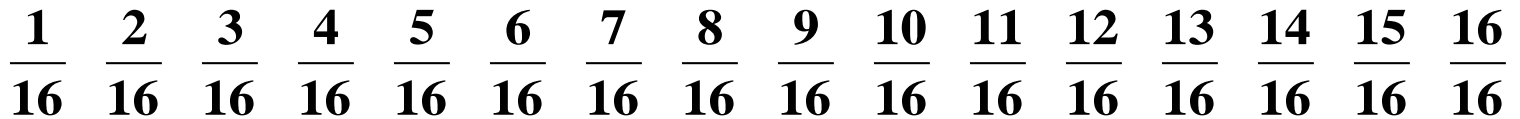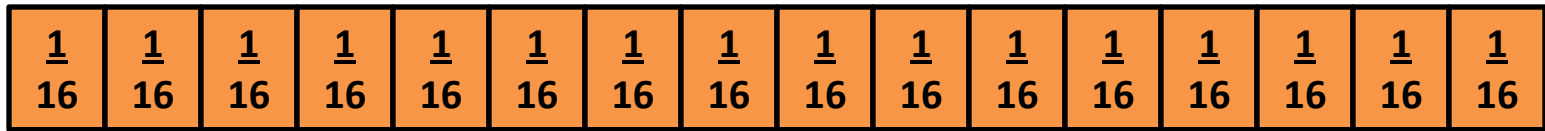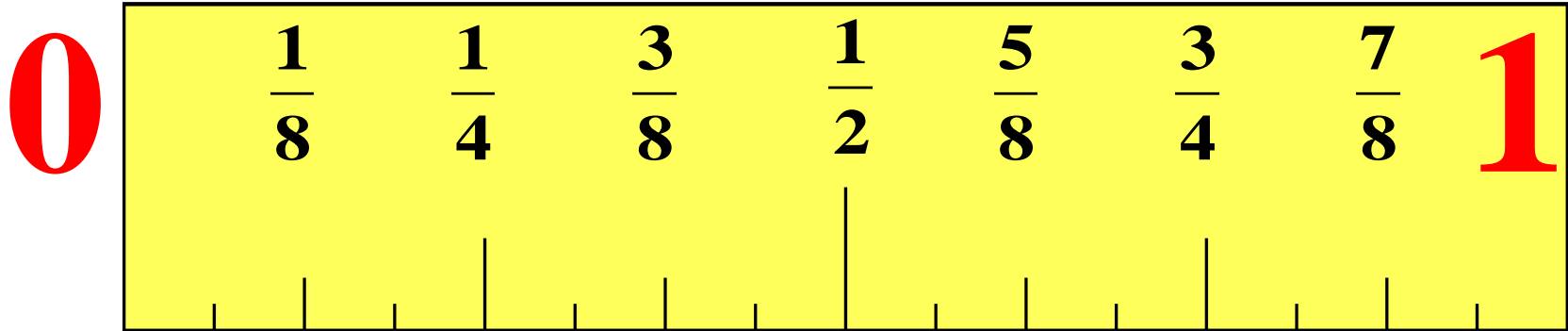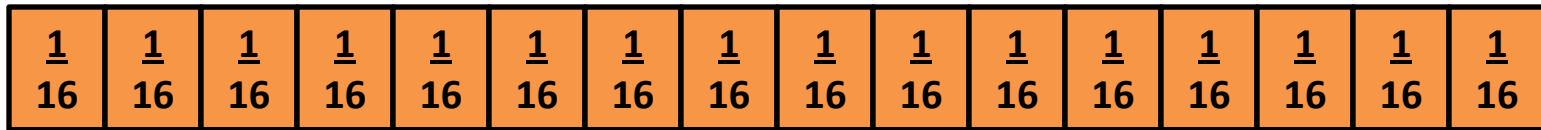
The shortest lines are 16ths.

0    $\dfrac{1}{8}$ $\dfrac{1}{4}$ $\dfrac{3}{8}$ $\dfrac{1}{2}$ $\dfrac{5}{8}$ $\dfrac{3}{4}$ $\dfrac{7}{8}$ 1

$\dfrac{1}{16}$ $\dfrac{1}{16}$ $\dfrac{1}{16}$ $\dfrac{1}{16}$ $\dfrac{1}{16}$ $\dfrac{1}{16}$ $\dfrac{1}{16}$ $\dfrac{1}{16}$ $\dfrac{1}{16}$ $\dfrac{1}{16}$ $\dfrac{1}{16}$ $\dfrac{1}{16}$ $\dfrac{1}{16}$ $\dfrac{1}{16}$ $\dfrac{1}{16}$ $\dfrac{1}{16}$
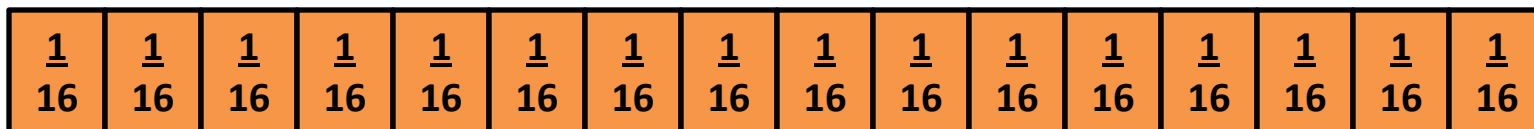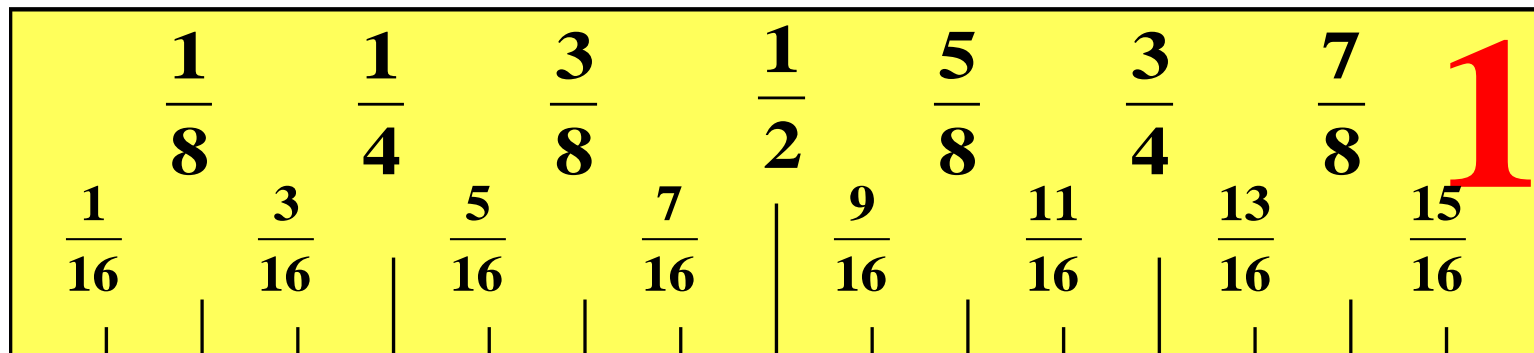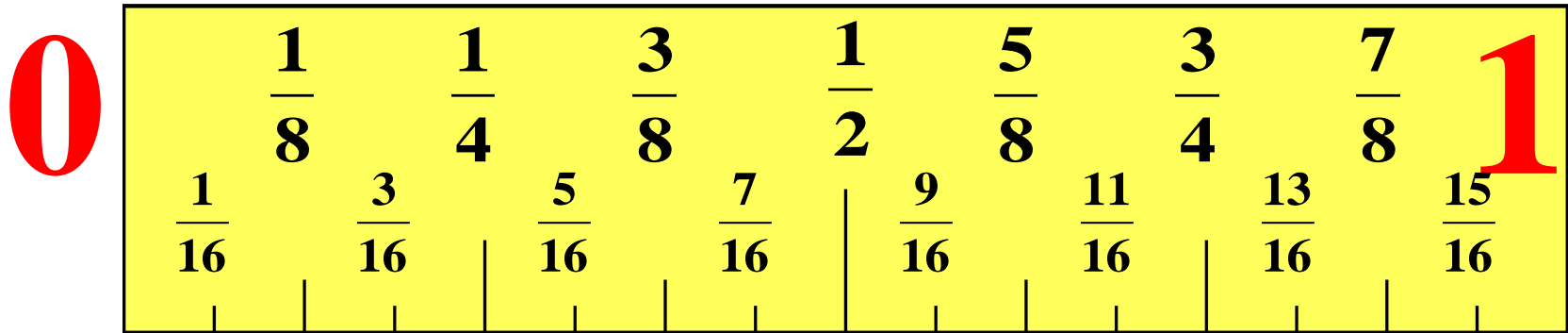
$\dfrac{1}{16}$ $\dfrac{2}{16}$ $\dfrac{3}{16}$ $\dfrac{4}{16}$ $\dfrac{5}{16}$ $\dfrac{6}{16}$ $\dfrac{7}{16}$ $\dfrac{8}{16}$ $\dfrac{9}{16}$ $\dfrac{10}{16}$ $\dfrac{11}{16}$ $\dfrac{12}{16}$ $\dfrac{13}{16}$ $\dfrac{14}{16}$ $\dfrac{15}{16}$ $\dfrac{16}{16}$

$\frac{1}{8}$ $\frac{1}{4}$ $\frac{3}{8}$ $\frac{1}{2}$ $\frac{5}{8}$ $\frac{3}{4}$ $\frac{7}{8}$

$\frac{1}{16}$ $\frac{3}{16}$ $\frac{5}{16}$ $\frac{7}{16}$ $\frac{9}{16}$ $\frac{11}{16}$ $\frac{13}{16}$ $\frac{15}{16}$

$\frac{2}{16}$ $\frac{4}{16}$ $\frac{6}{16}$ $\frac{8}{16}$ $\frac{10}{16}$ $\frac{12}{16}$ $\frac{14}{16}$ $\frac{16}{16}$
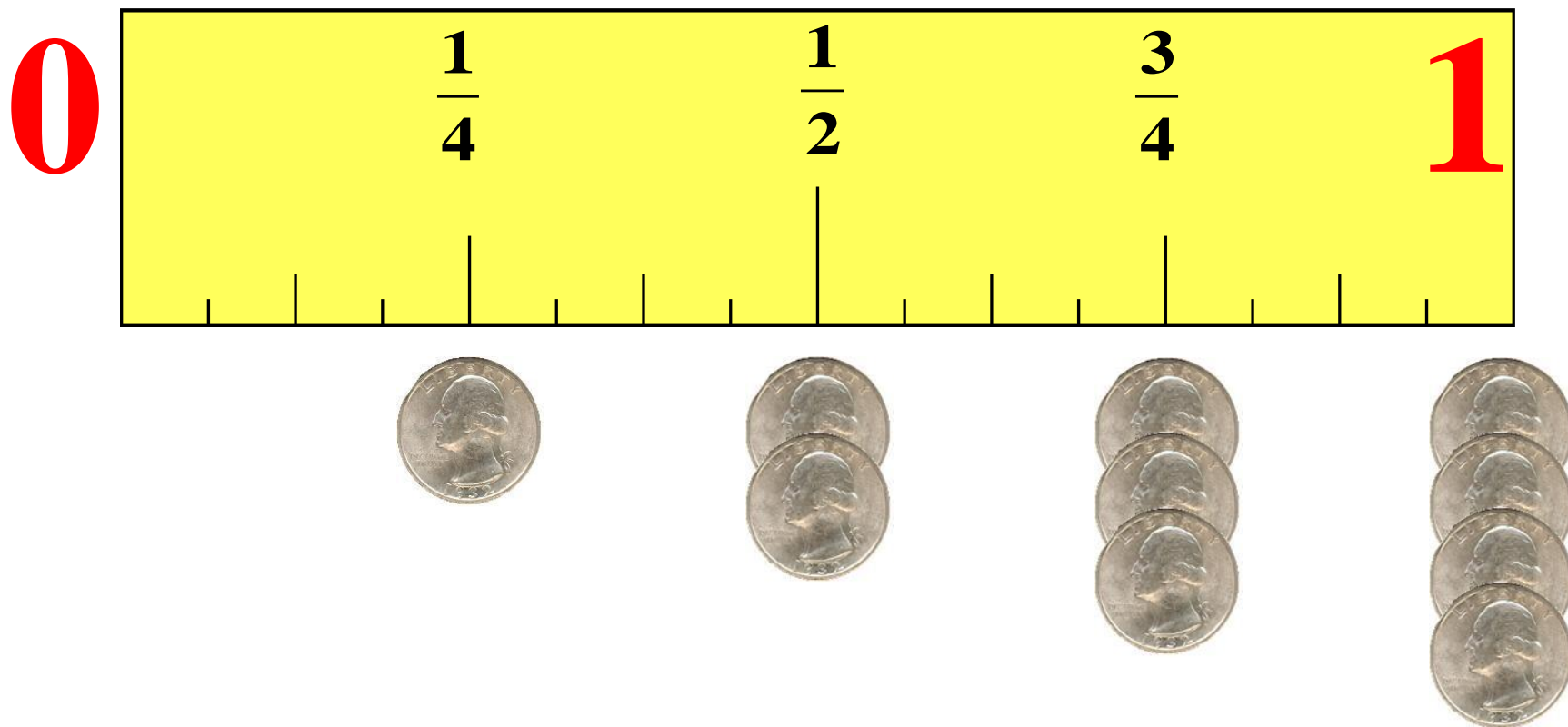
What about 8/16? That is the same as 1/2.

Notice that all of your ruler fractions are odd numbers in the numerator divided by even numbers in the denominator.

$$\frac{Odd}{Even}$$

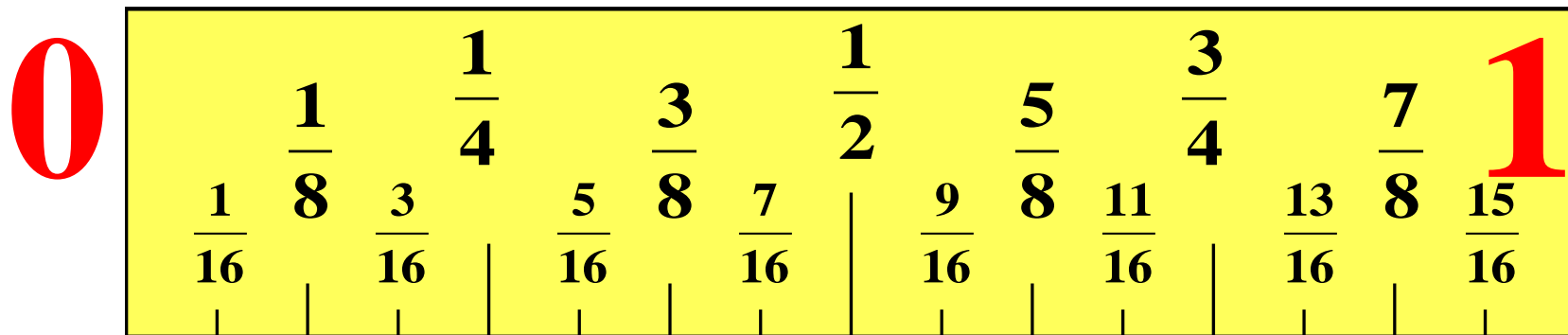Are you having trouble remembering these fractions?
Money always makes things easier.
Let's count up to a dollar in quarters.

0 $\dfrac{1}{4}$ $\dfrac{1}{2}$ $\dfrac{3}{4}$ 1

4 quarters = 1 half dollar

Now let's put in the eighths using
the second shortest lines,
remembering to count in odd numbers.

0

$$\frac{1}{4}$$
$$\frac{1}{2}$$
$$\frac{3}{4}$$

$$\frac{1}{8}$$
$$\frac{3}{8}$$
$$\frac{5}{8}$$
$$\frac{7}{8}$$

1

$$\frac{1}{16}$$
$$\frac{3}{16}$$
$$\frac{5}{16}$$
$$\frac{7}{16}$$
$$\frac{9}{16}$$
$$\frac{11}{16}$$
$$\frac{13}{16}$$
$$\frac{15}{16}$$

Now let's put in the sixteenths
using the shortest lines,
remembering to count in odd numbers.

Now you know how to read a ruler. Practice it every day so you will not forget it.