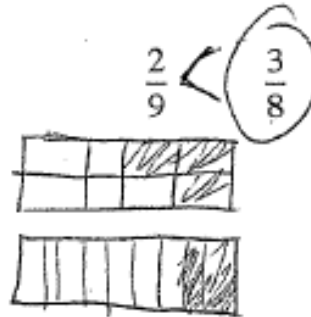


**Greater Number of Larger Pieces (7/10 vs. 8/9, 2/9 vs. 3/8, 18/25 vs. 16/27)**

$\frac{7}{10}$   $\left(\frac{8}{9}\right)$   
 10ths are smaller than 9ths  
 and there's less 10ths  
 anyway so it's got  
 to be smaller



$\left(\frac{18}{25}\right) > \frac{16}{27} \frac{16}{25}$   
 Make the parts  
 equal & see that  
 16 has less parts,  
 then when you  
 see that the parts  
 are smaller, you  
 can see that  $\frac{16}{27}$   
 is smaller.

**Benchmark Value Equivalent (1/2 vs. 17/31, 1/4 vs. 25/99)**

$\frac{25}{99}$  is greater than  $\frac{1}{4}$ . If you multiply  
 $\frac{1}{4}$  by  $\frac{25}{25}$  you get  $\frac{25}{100}$ . Now both fractions  
 have 25 pieces but 25 pieces from 99  
 is greater than 25 pieces from 100 because the 99 pieces  
 are larger.

$\frac{1}{2} < \frac{17}{31}$   
 $\frac{31}{62} < \frac{34}{62}$   
 when equal denominator  
 are found, the number  
 on the right is larger.

$\left(\frac{1}{4}\right) \frac{25}{99}$   
 b/c 25 is  $\frac{1}{4}$  of  
 a hundred and it  
 is less than  $\frac{1}{4}$  if  
 it is out of 99.  
 Therefore  $\frac{1}{4}$  is bigger

**Same Size Pieces/Same Number of Pieces (2/17 vs. 2/19)**

$\frac{2}{17} > \frac{2}{19}$   
 A whole divided into  
 17 pieces, + 2 whole  
 divided into 19 pieces  
 would have diff sized pieces.  
 2  $\frac{1}{17}$  pieces would be  
 larger than 2  $\frac{1}{19}$  pieces

$\frac{2}{17} > \frac{2}{19}$   
 the pieces are bigger than  
 19th pieces. Both have only  
 2 pieces, then the one with  
 larger pieces would be  
 bigger.

**Equivalent Fractions – Same Size Pieces/Same Number of Pieces (4/7 vs. 9/14, 3/7 vs. 6/11)**

$$\frac{4}{7} = \frac{4}{7} \quad \left(\frac{9}{14}\right)$$

$$\frac{3}{7} \quad \left(\frac{6}{11}\right)$$

$$\frac{9}{14} \quad \frac{6}{11}$$

$$\frac{3 \cdot 2}{7 \cdot 2} \quad \frac{6}{11}$$

$$\frac{6}{14} \quad \frac{6}{11}$$

$$\frac{33}{77} \quad \frac{36}{77}$$

**Benchmark Value Between (24/7 vs. 34/15, 15/17 vs. 19/18, 3/7 vs. 6/11, 2/7 vs. 3/8)**

$\left(\frac{24}{7}\right) = 3\frac{6}{7}$     $\frac{34}{15} = 2\frac{4}{15}$

When these fractions are changed to proper fractions, it is easy to see that  $\frac{24}{7} > \frac{34}{15}$ .

$\frac{24}{7}$  = over 3 while  
 $\frac{34}{15}$  = less than 3.

$\left(\frac{3}{7}\right) = \frac{6}{11}$


3 can go into 7 twice, and 6 can go into 11 only once, so 3 is a bigger %age of 7 than 6 is of 11.

$\frac{15}{17} \quad \left(\frac{19}{18}\right)$

$\frac{19}{18} > \frac{15}{17}$  because  
 $\frac{19}{18} > 1$  and  $\frac{15}{17} < 1$ .

**Benchmark Value Distance (8/9 vs. 12/13, 13/15 vs. 17/19, 25/12 vs. 31/15, 11/20 vs. 19/36)**

$\left(\frac{8}{9}\right) \quad \frac{12}{13}$



Because pieces are larger

$\left(\frac{11}{20}\right) \quad \frac{19}{36}$

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 ○○○○○○○○○○○○○○○○  
 ○○○○○○ 19/36

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 ○○○○○○○○○○○○○○○○ 11/20

• b/c there are 9 left

2 away  $\left(\frac{13}{15}\right)$   $\left(\frac{17}{19}\right)$  2 away

↳ bigger pieces

Both fractions are 2 pieces from 1, but  $\frac{13}{15} > \frac{17}{19}$ , so  $\frac{17}{19}$  closer to 1 and larger.