



ORDER FRACTIONS & DECIMALS

5.2b The student will compare and order fractions, mixed numbers, and/or decimals in a given set, from least to greatest and greatest to least.


The most efficient way to order a set of fractions and decimals is to put them on a number line.

<u>Steps to order numbers</u>	<u>Example</u>						
1. Pick a beginning and an end for your number line. Look at each set of numbers and decide on what whole number will serve as your beginning point and end point.	1. Order these numbers from least to greatest: 6.4, $6\frac{2}{3}$, 6.71, 6.5, $6\frac{1}{8}$ <i>All of these numbers are more than ____ and less than ____.</i>						
2. Mark half on your number line. If your beginning and end point are two consecutive numbers, then halfway will be $\frac{1}{2}$ (0.5) more than your beginning point.	2. 						
3. Sort your numbers by whether they are more than half, less than half, or equal to half.	3. <table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="text-align: center;">$< \frac{1}{2}$</td> <td style="text-align: center;">$= \frac{1}{2}$</td> <td style="text-align: center;">$< \frac{1}{2}$</td> </tr> <tr> <td style="border: none;"> </td> <td style="border: none;"> </td> <td style="border: none;"> </td> </tr> </table>	$< \frac{1}{2}$	$= \frac{1}{2}$	$< \frac{1}{2}$			
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4. If any number is equal to one half, put it on the number line in the middle. Then compare the numbers that are less than one half together, putting them in the correct order. Repeat for the numbers that are more than one half.	4. 						

Technology Enhanced Items: Drag and Drop

Directions: Click and drag (rewrite) each number to the correct box.

Arrange the four numbers from greatest to least.

Greatest		$1\frac{3}{4}$
		1.1
		1.95
Least		$1\frac{4}{5}$

Practical Problem

It's time to line up from tallest to shortest for class pictures! You are $4\frac{2}{3}$ feet tall, Jeff is 4.583 feet tall, and Sean is $4\frac{1}{4}$ feet tall. How should you line up?

Sentence Answer: _____

Extension/Error Analysis

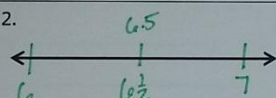
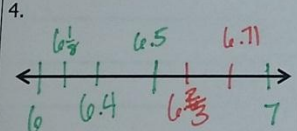
How could you create a number line to show numbers that are all more than half, like 0.6, $\frac{3}{4}$, $\frac{7}{8}$, and 0.52?

<p>Arrange these numbers in order from greatest to least:</p> <p>$5 \frac{1}{3}$, $5 \frac{3}{4}$, $5 \frac{1}{2}$, 5.2, 5.6</p>	<p>Arrange these numbers in order from least to greatest:</p> <p>0.23, $\frac{1}{5}$, 0.57, $\frac{1}{4}$, $\frac{4}{5}$</p>
<p>Arrange these numbers in order from greatest to least:</p> <p>1.1, 1.9, $1 \frac{5}{8}$, $1 \frac{2}{5}$, 1.49</p>	<p>Arrange these numbers in order from least to greatest:</p> <p>3.4, 4.3, $3 \frac{3}{4}$, $4 \frac{1}{5}$, 4.7</p>

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2. Mark half on your number line. If your beginning and end point are two consecutive numbers, then halfway will be $\frac{1}{2}$ (0.5) more than your beginning point.	2. 						
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$$6.4 = 6\frac{4}{10} = 6\frac{2}{5} = \frac{16}{5}$$

$$6\frac{1}{8} = \frac{5}{4} \quad 6\frac{1}{8} < 6.4$$

$$6\frac{3}{8} = 6.6666 < 6.71$$

Technology Enhanced Items: Drag and Drop

Directions: Click and drag (rewrite) each number to the correct box.

Arrange the four numbers from greatest to least.

Greatest
↓
Least

1.95
 $1\frac{1}{3}$
 $1\frac{3}{4}$
1.1

$1\frac{3}{4}$
1.1
1.95
 $1\frac{1}{5}$

$1\frac{3}{4} = 1.75$
 $1\frac{1}{5} = 1.8$
bigger
+ $\frac{1}{2}$ - almost 2, must be biggest
- $\frac{1}{2}$ - must be smallest

Practical Problem

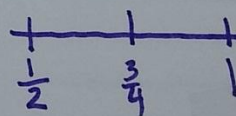
It's time to line up from tallest to shortest for class pictures! You are $4\frac{2}{3}$ feet tall, Jeff is 4.583 feet tall, and Sean is $4\frac{1}{4}$ feet tall. How should you line up?

$4\frac{2}{3}$ + $\frac{1}{2}$ 4.583 + $\frac{1}{2}$ $4\frac{1}{4}$ - $\frac{1}{2}$ $4\frac{2}{3}$ = 4.6666
smallest 4.583 < 4.5 4.583 < 4.5

Sentence Answer: You should line up first because you are the tallest. Next should be Jeff, and Sean should be last because he's shortest.

Extension/Error Analysis

How could you create a number line to show numbers that are all more than half, like 0.6, $\frac{3}{4}$, $\frac{1}{8}$, and 0.52?



Start at $\frac{1}{2}$, end at 1, middle is $\frac{3}{4}$

Arrange these numbers in order from greatest to least:

1.1, 1.9, $1\frac{5}{8}$, $1\frac{2}{5}$, 1.49

Arrange these numbers in order from greatest to least:
 $5\frac{1}{3}$, $5\frac{3}{4}$, $5\frac{1}{2}$, 5.2, 5.6

Arrange these numbers in order from least to greatest:

3.4, 4.3, $3\frac{3}{4}$, $4\frac{1}{5}$, 4.7

Arrange these numbers in order from least to greatest:
 0.23, $\frac{1}{5}$, 0.57, $\frac{1}{4}$, $\frac{4}{5}$

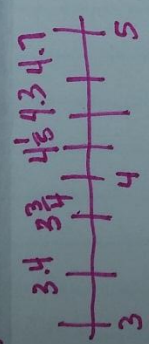
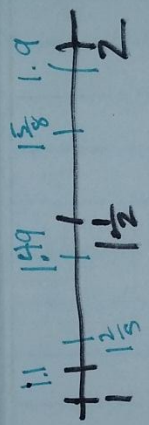
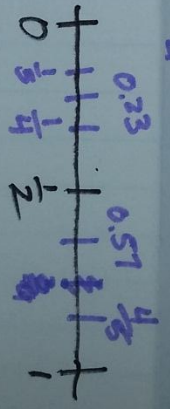
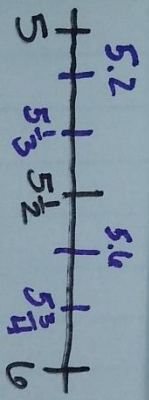
$$\frac{1}{5} = 0.2333$$

$$\frac{3}{4} = 0.75$$

$$\frac{1}{5} = 0.2$$

$$\frac{1}{4} = 0.25$$

$$\frac{4}{5} = 0.8$$



Handwritten notes: 1.625 , 1.6 , 1.625 , 1.6 , 1.625 , 1.6

Handwritten notes: $1\frac{1}{4}$, $1\frac{1}{4}$, $1\frac{1}{4}$, $1\frac{1}{4}$, $1\frac{1}{4}$, $1\frac{1}{4}$