LESSON MAKER PRO

Rational Number Lineup

Compare and order fractions, decimals, and percents.

GRADE 7 · 7.NS.2.a

7.NS.2.a "Use multiple strategies (e.g., benchmarks, number line, equivalency) to compare (using symbols <, >, =) and order (a set of no more than four) rational numbers expressed as integers, fractions (proper or improper), mixed numbers, decimals..."

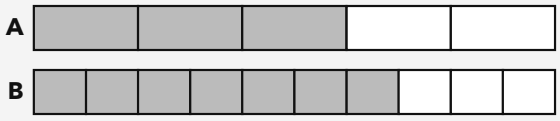
NAME _____ DATE _____

CHOOSE A COMMON FORM

To compare rational numbers, rewrite them in a form that makes their values easy to see. You can use equivalent fractions, decimals, percents, benchmarks, or positions on a number line. For negative numbers, the number farther left on a number line is smaller.

WORKED EXAMPLE

Use the fraction bars. Compare the shaded amounts with <, >, or =.

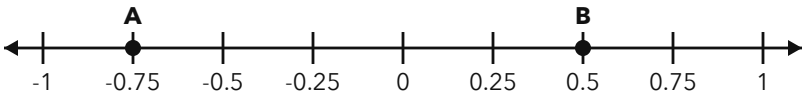


1. Bar A shows 3/5, and bar B shows 7/10.
2. Rewrite 3/5 as 6/10.
3. Since 6/10 is less than 7/10, use <.

Answer: 3/5 < 7/10

PRACTICE 6 problems

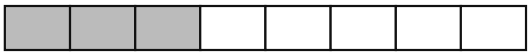
1 Use the number line. Write the values of A and B as fractions, then compare them with <, >, or =.



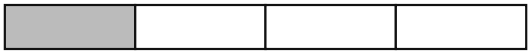
ANSWER _____

2 Use the fraction bars. Name the fraction shown by each bar, then compare the fractions with <, >, or =.

A



B



ANSWER _____

_____

3 Compare -1.25 and -1 1/5. Write <, >, or =.

ANSWER _____

4 Compare 45% and 1/2. Write <, >, or =.

ANSWER _____

5 Order -2/3, -0.6, and -75% from least to greatest.

ANSWER _____

6 Order 1 1/4, 1.2, 6/5, and 125% from greatest to least. Use = for values that are equal. Name one equal pair.

ANSWER _____

_____

APPLY IT Show your work

1 A streaming app shows the portion of four videos that Sam watched. All four videos have the same total duration. The portions are 11/20, 0.58, 62%, and 5/8. Order the portions from shortest watch time to longest watch time.

WORK SPACE

ANSWER _____

2 The table shows how much of a group project each team has completed. Which team is closest to finishing? Then order the teams from most complete to least complete.

PROJECT COMPLETION

Team	Part Completed
Pixel	7/8
Pulse	0.86
Quest	90%
Spark	4/5

ANSWER _____

CHALLENGE One step up

Order -1 1/8, -1.12, -112%, and -9/8 from least to greatest. Then explain the order using an equivalent fraction and an equivalent decimal.

WORK SPACE AND ANSWER

ANSWER KEY

Rational Number Lineup

GRADE 7 · 7.NS.2.a

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Use the number line. Write the values of A and B as fractions, then compare them with <, >, or =.	**-3/4 < 1/2**
2	Use the fraction bars. Name the fraction shown by each bar, then compare the fractions with <, >, or =.	**3/8 > 1/4**
3	Compare -1.25 and -1 1/5. Write <, >, or =.	**-1.25 < -1 1/5**
4	Compare 45% and 1/2. Write <, >, or =.	**45% < 1/2**
5	Order -2/3, -0.6, and -75% from least to greatest.	**-75% < -2/3 < -0.6**
6	Order 1 1/4, 1.2, 6/5, and 125% from greatest to least. Use = for values that are equal. Name one equal pair.	**1 1/4 = 125% > 1.2 = 6/5; equal pairs: 1 1/4 and 125%, and 1.2 and 6/5**

PART 2 · APPLY IT

1. **11/20 < 0.58 < 62% < 5/8** Rewrite 11/20 as 0.55, 62% as 0.62, and 5/8 as 0.625. Then compare the decimals. Equal total durations make the portion order the same as the elapsed watch-time order.
2. **Quest is closest to finishing. Quest > Pixel > Pulse > Spark.** Rewrite the amounts as decimals: Pixel 0.875, Pulse 0.86, Quest 0.90, and Spark 0.80. The greatest amount is closest to finishing.

CHALLENGE

-1 1/8 = -9/8 < -1.12 = -112%. Fraction strategy: -1 1/8 = -9/8. Decimal strategy: -1 1/8 = -1.125 and -112% = -1.12, and -1.125 < -1.12.

Accept equivalent comparison statements and equivalent ordered forms, including decimals or fractions students use correctly. For ordered sets, accept either order within a group of equal values when the equality is shown.