

Ordering Fractions

• Example 1

Suppose a , b , c , and d are four positive numbers which satisfy the conditions $a < b < c < d$.

Fill in the blank boxes using either $>$, $<$, or $=$, so as to make each of the following a true statement.

$$\frac{a}{b} \square \frac{a}{c}$$

$$\frac{a}{d} \square \frac{c}{b}$$

Using the order properties of the real line, we have

$$\frac{a}{b} > \frac{a}{c}, \text{ since } b < c$$

$$\frac{a}{d} < \frac{c}{b}, \text{ since } a < d \text{ and } b < c \text{ and so } \frac{a}{d} < 1 < \frac{c}{b}.$$

● ● ● CHECK YOURSELF 1

If a , b , c , and d are as above, fill in the blank box with either $<$, $>$, $=$ so as to make the statement true.

$$\frac{a}{b} \square \frac{b}{a}$$

● ● ● CHECK YOURSELF ANSWER

1. $\frac{a}{b} < \frac{b}{a}$.

5.2 Exercises

Name _____

Section _____

Date _____

A N S W E R S

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

Suppose a , b , c , and d are four positive numbers which satisfy the conditions

$$a < b < c < d.$$

Fill in the blank boxes using either $>$, $<$, or $=$, so as to make each of the following a true statement.

1. $\frac{a}{b} \square \frac{d}{c}$

2. $\frac{c}{b} \square \frac{d}{a}$

3. $\frac{b}{a} \square \frac{a}{c}$

4. $\frac{b}{b} \square \frac{c}{b}$

5. $\frac{c}{a} \square \frac{a}{d}$

6. $\frac{a}{a} \square \frac{d}{d}$