Topic: Relationships of numbers

Question: Which fraction is greater?

$$\frac{4}{5} \text{ and } \frac{7}{10}$$

Answer choices:

A $\frac{4}{5}$

B $\frac{7}{10}$

C   The fractions are equivalent

D   Cannot be determined

Solution: A

To determine which fraction is greater, we want to find a common denominator for the two fractions. Since the least common multiple of their denominators (5 and 10) is 10, we'll change $4/5$ to an equivalent fraction that has a denominator of 10.

$$\frac{4}{5}$$

$$\frac{4}{5}\left(\frac{2}{2}\right)$$

$$\frac{8}{10}$$

Now that the denominators are equal, we can compare the fractions directly.

$$\frac{8}{10} \text{ and } \frac{7}{10}$$

Because the numerator of $8/10$ is greater than the numerator of $7/10$ (and their denominators are equal), we see that $8/10$ is greater than $7/10$, which means that the equivalent fraction $4/5$ is greater than $7/10$.

Topic: Relationships of numbers

Question: Which number is less than the other?

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

Answer choices:

A $\frac{1}{2}$

B $\frac{3}{4}$

C   The numbers are equivalent

D   Cannot be determined

Solution: A

In order to compare $1/2$ to $3/4$, we need to find a common denominator for the two fractions. The least common multiple of their denominators (2 and 4) is 4, so we'll change $1/2$ to a denominator of 4.

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

$$\frac{1}{2}\left(\frac{2}{2}\right)$$

$$\frac{2}{4}$$

Now that the denominators are equal, we can compare the fractions directly.

$$\frac{2}{4} \text{ and } \frac{3}{4}$$

Because the numerator of $2/4$ is less than the numerator of $3/4$ (and their denominators are equal), we see that $2/4$ is less than $3/4$, which means that the equivalent fraction $1/2$ is less than $3/4$.

Topic: Relationships of numbers

Question: Which fraction is smaller?

$$\frac{5}{7} \text{ or } \frac{5}{9}$$

Answer choices:

A $\frac{5}{7}$

B   The numbers are equivalent

C $\frac{5}{9}$

D   Cannot be determined

Solution: C

When the numerators are equivalent, the smaller fraction is the one with the larger denominator, so $5/9$ is the smaller fraction.