

Topic: Multiplying and dividing mixed numbers

Question: Simplify the expression.

$$2\frac{1}{2} \cdot \frac{7}{3}$$

Answer choices:

A $\frac{7}{3}$

B $\frac{6}{35}$

C $\frac{35}{6}$

D $6\frac{1}{5}$

Solution: C

First, we'll convert the mixed number into an improper fraction.

$$2\frac{1}{2} \cdot \frac{7}{3}$$

$$\frac{2 \cdot 2 + 1}{2} \cdot \frac{7}{3}$$

$$\frac{5}{2} \cdot \frac{7}{3}$$

To multiply the fractions, we'll multiply the numerators together to get the new numerator, and we'll multiply the denominators together to get the new denominator.

$$\frac{5 \cdot 7}{2 \cdot 3}$$

$$\frac{35}{6}$$

Topic: Multiplying and dividing mixed numbers

Question: Simplify the expression.

$$2\frac{1}{2} \div \frac{7}{6}$$

Answer choices:

A $\frac{15}{7}$

B $\frac{14}{6}$

C $\frac{35}{12}$

D $\frac{35}{6}$

Solution: A

First, we'll convert the mixed number into an improper fraction.

$$2\frac{1}{2} \div \frac{7}{6}$$

$$\frac{2 \cdot 2 + 1}{2} \div \frac{7}{6}$$

$$\frac{5}{2} \div \frac{7}{6}$$

Instead of dividing by $7/6$, we'll multiply by its reciprocal.

$$\frac{5}{2} \times \frac{6}{7}$$

$$\frac{5 \cdot 6}{2 \cdot 7}$$

$$\frac{30}{14}$$

Now we'll reduce the fraction to its lowest terms by dividing the numerator and denominator by their greatest common factor.

$$\frac{30 \div 2}{14 \div 2}$$

$$\frac{15}{7}$$