

Dividing Fractions

Answer key

6.NS.A.1

14 problems

1. What is the reciprocal of $\frac{5}{8}$?

Answer $\frac{8}{5}$ Flip the numerator and denominator: the reciprocal of $\frac{5}{8}$ is $\frac{8}{5}$.

2. Compute $\frac{1}{2} \div \frac{1}{4}$.

Answer 2Multiply by the reciprocal: $\frac{1}{2} \times \frac{4}{1} = \frac{4}{2} = 2$.

3. Compute $\frac{3}{4} \div \frac{1}{2}$.

Answer $\frac{3}{2}$ $\frac{3}{4} \times \frac{2}{1} = \frac{6}{4} = \frac{3}{2}$.

4. Compute $\frac{2}{3} \div \frac{4}{9}$.

Answer $\frac{3}{2}$ $\frac{2}{3} \times \frac{9}{4} = \frac{18}{12} = \frac{3}{2}$.

5. Compute $\frac{5}{6} \div \frac{2}{3}$.

Answer $\frac{5}{4}$ $\frac{5}{6} \times \frac{3}{2} = \frac{15}{12} = \frac{5}{4}$.

6. Divide a whole number by a fraction: $6 \div \frac{3}{4}$.

Answer 8 $6 \times \frac{4}{3} = \frac{24}{3} = 8$.

7. Divide a fraction by a whole number: $\frac{4}{5} \div 2$.

Answer $\frac{2}{5}$ $\frac{4}{5} \times \frac{1}{2} = \frac{4}{10} = \frac{2}{5}$.

8. Compute $\frac{7}{8} \div \frac{1}{4}$.

Answer $\frac{7}{2}$ $\frac{7}{8} \times \frac{4}{1} = \frac{28}{8} = \frac{7}{2}$.

9. Compute $1\frac{1}{2} \div \frac{3}{4}$. Write each mixed number as an improper fraction first.

Answer 2 $1\frac{1}{2} = \frac{3}{2}$, so $\frac{3}{2} \times \frac{4}{3} = \frac{12}{6} = 2$.

10. Compute $2\frac{1}{4} \div 1\frac{1}{2}$.

Answer $\frac{3}{2}$ $\frac{9}{4} \div \frac{3}{2} = \frac{9}{4} \times \frac{2}{3} = \frac{18}{12} = \frac{3}{2}$.

11. Which expression is equal to $\frac{2}{5} \div \frac{3}{7}$?

Answer C) $\frac{2}{5} \times \frac{7}{3}$

Dividing by $\frac{3}{7}$ means multiplying by its reciprocal $\frac{7}{3}$, so the answer is $\frac{2}{5} \times \frac{7}{3}$.

12. A ribbon is $\frac{3}{4}$ of a meter long. It is cut into pieces that are each $\frac{1}{8}$ of a meter long. How many pieces are there?

Answer 6 pieces

$$\frac{3}{4} \div \frac{1}{8} = \frac{3}{4} \times \frac{8}{1} = \frac{24}{4} = 6 \text{ pieces.}$$

13. A recipe calls for $\frac{2}{3}$ of a cup of flour per batch. How many full batches can you make with 4 cups of flour?

Answer 6 batches

$$4 \div \frac{2}{3} = 4 \times \frac{3}{2} = \frac{12}{2} = 6 \text{ batches.}$$

14. A water jug holds $\frac{9}{10}$ of a liter. You pour it equally into glasses that each hold $\frac{3}{20}$ of a liter. How many glasses can you fill?

Answer 6 glasses

$$\frac{9}{10} \div \frac{3}{20} = \frac{9}{10} \times \frac{20}{3} = \frac{180}{30} = 6 \text{ glasses.}$$