

Lesson 7 – Dividing Fractions by Fractions

Starter

1) 0.2×0.4

2) $\frac{3}{4} \times \frac{7}{8}$

3) -3×-4

4) $(-8)^2$

5) $(-2)^3$

Starter Answers

1) 0.08

2) $\frac{21}{32}$

3) 12

4) 64

5) -8

In this lesson, we will look at how to **divide** with **fractions** by **fractions**.

Last lesson, we found that **dividing** by a **fraction** is the same as **multiplying** by its **reciprocal**.

The same rules apply when we divide fractions by fractions.

Example 1

Work out $\frac{2}{3} \div \frac{1}{5}$

$$= \frac{2}{3} \times \frac{5}{1}$$

the reciprocal of $\frac{1}{5}$ is $\frac{5}{1}$

$$= \frac{10}{3}$$

multiply the numerators, multiply the denominators

Example 2

Work out $\frac{3}{4} \div \frac{2}{7}$

$$= \frac{3}{4} \times \frac{7}{2}$$

the reciprocal of $\frac{2}{7}$ is $\frac{7}{2}$

$$= \frac{21}{8}$$

multiply the numerators, multiply the denominators

Example 3

Work out $\frac{1}{3} \div \frac{2}{5} \div \frac{4}{7}$

First, answer $\frac{1}{3} \div \frac{2}{5}$:

$$\frac{1}{3} \div \frac{2}{5} = \frac{1}{3} \times \frac{5}{2} = \frac{5}{6}$$

Then, divide by $\frac{4}{7}$:

$$\frac{5}{6} \div \frac{4}{7} = \frac{5}{6} \times \frac{7}{4} = \frac{35}{24}$$