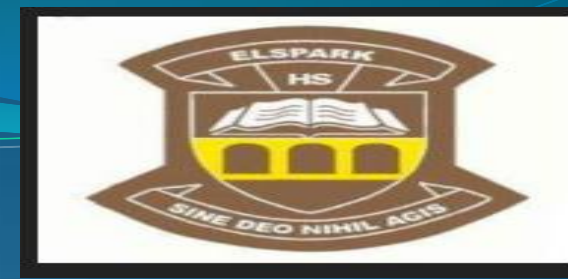


# MATHEMATICS



Topic: Dividing common fractions.

- ❖ To divide common fractions, we make use of reciprocal relationships. Dividing by a number is the same as multiplying by the reciprocal of that number. If you multiply a number by its reciprocal, the answer is 1.
- ❖ The reciprocal of  $n$  is  $\frac{1}{n}$ . The reciprocal of 8 is  $\frac{1}{8}$  because  $8 \times \frac{1}{8} = 1$ , The reciprocal of  $\frac{2}{3}$  is  $\frac{3}{2}$  because  $\frac{2}{3} \times \frac{3}{2} = 1$
- ❖ To divide a fraction by a fraction we replace the  $\div$  by  $\times$  and use the reciprocal of the which is the divisor.

# Worked examples

## Calculate

$$\begin{aligned} 1. \quad & 8 \times \frac{3}{5} \\ &= \frac{8}{1} \times \frac{5}{3} \\ &= \frac{40}{3} \\ &= 13\frac{1}{3} \end{aligned}$$

$$2. \quad \frac{3}{4} \div \frac{7}{2} = \frac{3}{4} \times \frac{2}{7} = \frac{6}{28} = \frac{3}{14}$$

3.

$$\begin{aligned} & 2\frac{2}{3} \div 1\frac{1}{2} \div \frac{2}{5} \\ &= \frac{8}{3} \times \frac{2}{3} \times \frac{5}{2} \\ &= \frac{80}{18} \\ &= 4\frac{4}{9} \end{aligned}$$

# Exercises

## Exercise 13.3 pg 163

1. Write down the multiplicative inverse of the following numbers or fractions.

1.1

1.4

1.5

1.7

2. Simplify each of the following:

2.1      2.6

2.2      2.7

2.5      2.9

## Exercise 13.4 pg 164

Simplify the following.

1.

11.

2.

12.

3.

13.

4.

14.

5.

6.

9.

10.