

Key Vocabulary	
Integer	An integer is a whole number (not a fraction or decimal), it can be positive, negative or zero
Examples of integers: 5, -23, 0, 1560	
Positive number	Positive numbers are numbers greater than zero
Negative number	Negative numbers are numbers less than zero
Numerator	The top number in a fraction
Denominator	The bottom number in a fraction
=	Equals
≠	Does not equal
<	Less than
>	Greater than
≤	Less than or equal
≥	Greater than or equal

Key facts / Diagrams

Inequality

larger \gg smaller

Negative numbers

Negative numbers zero Positive numbers

Smaller Greater

Fractions

Use a common denominator to order/compare fractions

$$\frac{1}{3} \times 5 = \frac{5}{15} \qquad \frac{1}{5} \times 3 = \frac{3}{15}$$

Common Denominator

Therefore

$$\frac{1}{3} > \frac{1}{5}$$

Common misconceptions

- Some pupils may believe that 0.400 is greater than 0.58
- Pupils may believe, incorrectly, that:
 - A fraction with a larger denominator is a larger fraction
 - A fraction with a larger numerator is a larger fraction
 - A fraction involving larger numbers is a larger fraction
- Some pupils may believe that -6 is greater than -3. However -6 is the smaller number here.

Worked examples

- True or False
 - $3^3 = 9$ FALSE
 - $\sqrt[3]{8} = \sqrt{4}$ TRUE
 - $10^2 > 10^3$ FALSE
- Complete (fill in the gap) by using one of the following symbols $<$, $>$, \leq , \geq or $=$
 - $6 \times 2 \dots\dots 3 \times 4$ $=$
 - $5 - 3 \dots\dots 3 - 5$ $>$
 - $\frac{1}{5} \dots\dots \frac{1}{4}$ $<$
- Order the following from least to greatest
 $-2, 5, \frac{1}{2}, -6, 1.2, -2.5$
 $-6, -2.5, -2, \frac{1}{2}, 1.2, 5$