Integers and order of operations

Use brackets and powers first. Then multiply or divide, then add or subtract.

Work out −6 + 3 × (8 − 12).

$-6+3\times(-4)$	Start inside the brackets.
$-6+(-12)$	Multiply before adding.
-18	

Work out 18 ÷ 3 × 2.

6×2	Division and multiplication have the same priority. Work left to right.
12	

Watch the signs

Subtracting a negative is the same as adding: 4 − (−3) = 7.

Number sets and ordering

Classify a number by what it is, not just how it is written.

Set	Meaning	Example
Natural ($\mathbb{N}$)	Counting numbers	5
Integers ($\mathbb{Z}$)	Positive and negative whole numbers, and zero	-4
Rational ($\mathbb{Q}$)	Can be written as a fraction of integers with a non-zero denominator	0.75
Irrational ($\mathbb{R} \setminus \mathbb{Q}$)	Cannot be written as a fraction of integers	$\sqrt{2}$
Real ($\mathbb{R}$)	All rational and irrational numbers	π

Which is greater, -7 or -3?

$-3 > -7$ — -3 lies farther right on the number line.

-3

A number can belong to more than one set

For example, -4 is an integer, a rational number, and a real number.

JUNIOR CYCLE HIGHER LEVEL · CHAPTER PRACTICE

Numbers

Try the questions before opening the separate answer key. Show one step per line.

1.1 · Fluency

Write -8, $3/5$ and $\sqrt{7}$ in the smallest applicable set from integers, rational and irrational numbers.

1.2 · Variation

Order -0.7, -0.07 and -0.77 from least to greatest.

1.3 · Choose a method

A balance starts at $-€18$, rises by €25 and falls by €12. Find the balance.

Check your work: are the sign, units and level of accuracy appropriate?