

MATH-UA 120 Section 3

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Integer

The *integers* are the positive whole numbers, the negative whole numbers, and zero. That is, the set of integers, denoted by the letter \mathbb{Z} , is

$$\mathbb{Z} = \{\dots, -3, -2, -1, 0, 1, 2, 3, \dots\}.$$

Divisible

Let a and b be integers. We say that a is *divisible* by b provided there is an integer c such that $bc = a$. We also say b *divides* a , or b is a *factor* of a , or b is a *divisor* of a . The notation for this is $b|a$.

Even

An integer is called *even* provided it is divisible by two.

Odd

An integer a is called *odd* provided there is an integer x such that $a = 2x + 1$.

Prime

An integer p is called *prime* provided that $p > 1$ and the only positive divisors of p are 1 and p .

Composite

A positive integer a is called *composite* provided there is an integer b such that $1 < b < a$ and $b|a$.