

MATH 102: IDEAS OF MATH

WORKSHEET 2

The set of all integers is

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

Question 1. Give definitions of odd and even numbers.

Question 2. Show that 100 is an even number.

Question 3. Show that:

- (1) sum of any two even integers is even,
- (2) sum of any two odd integers is even,
- (3) sum of an even integer and an odd integer is odd,
- (4) the product of two even integers is even,
- (5) the product of odd integers is odd,

Question 4. Show that the square of an odd integer is again odd.