A Book of Abstract Algebra | (2nd Edition)

Chapter AB, Problem 4E

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Problem

Prove that the following are true for any integers a, b, and c:

a|0.

Step-by-step solution

Step 1 of 2

Objective:-

The objective is to prove $a \mid 0.$

Comment

Step 2 of 2

Proof:-

The number 0 is divisible by each number. It always gives quotient zero.

$$\frac{0}{a} = 0$$

Let us write it mathematically.

$$0 = a \cdot 0 \qquad \ldots\ldots(1)$$

Thus, *a* is a factor of $a \cdot 0$ or 0, mathematically $a \mid 0.$

Proved

Comment