

## ANSWER on Question #85798 – Math – Discrete Mathematics

### QUESTION

Prove that for all integers  $a, b, c$  if  $a|b$  then  $ac|bc$ .

### SOLUTION

Notation  $a|b$  means that there exists an integer  $k$  such that

$$ka = b$$

We can multiply the last equality  $ka = b$  by any integer  $c$  and the equality will not change.

Then,

$$ka = b \mid \times (c) \rightarrow cka = cb \rightarrow k(ac) = bc \rightarrow ac|bc$$

**Q.E.D.**