

CH 10

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1 Division

Definition:

Let $a, b \in \mathbb{Z}$. We say a divides b (or a is a factor of b) if $b = ac$ for some integer c .

When a divides b , we write $a|b$

Proposition 10.1

Let a be a positive int. Then for any $b \in \mathbb{Z}$ there are integers q, r such that

$$b = qa + r \text{ and } 0 \leq r < a$$

q is quotient

r is remainder