

Section 6, p66 #1-4,45,46

In Exercises 1 through 4, find the quotient and remainder, according to the division algorithm, where n is divided by m .

1. $n = 42, m = 9$

$$42 = 4(9) + 6$$

2. $n = -42, m = 9$

$$-42 = -5(9) + 3$$

3. $n = -50, m = 8$

$$-50 = -7(8) + 6$$

4. $n = 50, m = 8$

$$50 = 6(8) + 2$$

Theory

45. Let r and s be positive integers. Show that $\{nr + ms : n, m \in \mathbb{Z}\}$ is a subgroup of \mathbb{Z}

answer

46. Let a and s be elements of a group G . Show that if ab has finite order n , then ba also has order n

answer