

Name \_\_\_\_\_ ID \_\_\_\_\_

**Activity 3-1 (12 Jul 2022)**

1. Prove the following statement:

If integer  $c$  divides both integers  $a$  and  $b$ , then  $c$  divides  $a - b$ .

*(Hint: try direct proofs.)*

**Activity 3-2**

2. Prove the following statement: If  $x$  is irrational, then  $\sqrt{x}$  is irrational.  
(Hint: try proofs by contraposition.)