

Name:

Date:

Period:

1. Under which operation is the set of positive rational numbers *NOT* closed?  
(A) addition      (B) subtraction      (C) multiplication      (D) division
  
2. Under which operation is the set of all odd integers closed?  
(A) division      (B) multiplication      (C) addition      (D) subtraction
  
3. Under which operation is the set  $\{1, 2, 4, 8, 16, \dots\}$  closed?  
(A) addition      (B) subtraction      (C) multiplication      (D) division
  
4. Under which operation are the even integers not closed?  
(A) addition      (B) subtraction      (C) multiplication      (D) division
  
5. Which set is not closed under addition?  
(A)  $\{1, 2, 3, 4, \dots\}$       (B)  $\{2, 4, 6, 8, \dots\}$       (C)  $\{3, 6, 9, 12, \dots\}$       (D)  $\{1, 3, 5, 7, \dots\}$
  
6. Which set is closed under the operation of subtraction?  
(A) Odd numbers      (B) Counting numbers      (C) Integers      (D) Prime numbers
  
7. Which set is not closed under addition?  
(A) Natural numbers      (B) Even integers      (C) Whole numbers      (D) Odd integers
  
8. Which set of numbers is not closed with respect to the given operation?  
(A) Integers with respect to multiplication      (B) Even integers with respect to addition      (C) Integers with respect to subtraction      (D) Odd integers with respect to addition
  
9. The set  $\{0, 1, -1\}$  is closed under the operation of  
(A) addition      (B) multiplication      (C) subtraction      (D) division