

1. Which property states that for any integers  $a$  and  $b$ ,  $a + b = b + a$ ?

- a) Closure property
- b) Commutative property
- c) Associative property
- d) Distributive property

2. What is the additive identity for integers?

- a) 1
- b) -1
- c) 0
- d) Any integer

3. Which of the following statements is always true for integers  $a$ ,  $b$ , and  $c$ ?

- a)  $a - b = b - a$
- b)  $a / b = b / a$
- c)  $a + (b + c) = (a + b) + c$
- d)  $a \times b = a + b$

4. What is the multiplicative identity for integers?

- a) 0
- b) 1
- c) -1
- d) Any integer

5. Explain the difference between the closure property for addition and closure property for subtraction of integers.

6. Describe the associative property for multiplication using integers.
7. Explain why division is not commutative for integers with examples.
8. A quiz team scored -40, 10, 0, and another team scored 10, 0, -40 in successive rounds. Which team scored more? Can we conclude that addition is commutative for integers based on this information? Why or why not?
9. Elaborate on the properties of integers with respect to addition, subtraction and multiplication and their respective identities, with appropriate examples to illustrate your understanding.
10. A test awards +5 marks for every correct answer and -2 marks for every incorrect answer.
- \* Radhika answered all the questions and scored 30 marks with 10 correct answers. How many incorrect answers did she provide?
  - \* Jay also answered all questions, scoring -12 marks with 4 correct answers. How many incorrect answers did Jay provide?