1

If the operation # is one of the four arithmetic operations addition, subtraction, multiplication and division, is (6#2)#4 = 6#(2#4)

(1) 3#2 > 3

(2) 3#1 = 3

If the operation Δ is one of the four arithmetic operations addition, subtraction, multiplication, and division, is $(6 \Delta 2) \Delta 4 = 6 \Delta (2 \Delta 4)$?

(1) $3 \Delta 2 > 3$

(2) $3 \Delta 1 = 3$

2

If the symbol @ represents either addition or multiplication, which operation does it represent?

(1) a@b=b@a for all numbers a and b
(2) a@(b-c)=(a@b)-(a@c) for all numbers a, b, and c

3

If # denotes one of the four arithmetic operations addition, subtraction, multiplication and division, what is the value of 1 # 2?

(1) n # 0 = n for all integers n
(2) n # n = 0 for all integers n

4

If @ denotes one of two arithmetic operations, addition or multiplication, and if k is an integer, what is the value of 3 @ k?

(1) 2 @ k = 3

(2) 1 @ 0 = k

5

[x] denotes to be the least integer no less than x. Is [2d] = 0?

(1) [d] = 0
(2) [3d] = 0