The system a Θ b is defined as: a Θ b = 10−(a + b). Find:

        1)   1 Θ 2

        2)   2 Θ 1

        3)   (5 Θ 4)Θ3

        4)   5 Θ (4 Θ 3)

Based on your responses above:

     5)   Is Θ commutative?

     6)   Is Θ associative?

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7.   Let $\underline{g}\rfloor = 3(g - 1)$; if g is even;

       Let $\underline{g}\rfloor = 3g - 1$; if g is odd.

       The product $\underline{4}\rfloor \times \underline{1}\rfloor =$

         (A)   0
         (B)   9
         (C)   18
         (D)   27
         (E)   45

8. Let B $\underline{\vartheta}$ C = (B−2C). For what value of x does 12 $\underline{\vartheta}$ x = 4 $\underline{\vartheta}$ 6?

9. Let the operation Δ be defined by the equation a Δ b = ab − (a+b). If 4 Δ b = 1, what is the value of b?

10. If $a \phi b = a^2 + b$, find 7 ϕ 8 .
    (A) 15
    (B) 30
    (C) 57
    (D) 71