Assignment 2

Due: 2020-06-03, 18:45 IST

1. Consider the following equivalence statements where a, b ∈ ℤ:
   a) a + b = b + a
   b) a ⋅ b = b ⋅ a
   c) a ⋅ (b + c) = a ⋅ b + a ⋅ c
   d) (a + b) ⋅ c = a ⋅ c + b ⋅ c
   e) a ⋅ (b ⋅ c) = (a ⋅ b) ⋅ c

   Which of these statements hold for all a, b ∈ ℤ?

2. Consider the following equivalence statements where a, b ∈ ℤ:
   a) a + b = b + a
   b) a ⋅ b = b ⋅ a
   c) a ⋅ (b + c) = a ⋅ b + a ⋅ c
   d) (a + b) ⋅ c = a ⋅ c + b ⋅ c
   e) a ⋅ (b ⋅ c) = (a ⋅ b) ⋅ c

   Which of these statements hold for all a, b ∈ ℤ?

3. Consider the following equivalence statements where a, b ∈ ℤ:
   a) a + b = b + a
   b) a ⋅ b = b ⋅ a
   c) a ⋅ (b + c) = a ⋅ b + a ⋅ c
   d) (a + b) ⋅ c = a ⋅ c + b ⋅ c
   e) a ⋅ (b ⋅ c) = (a ⋅ b) ⋅ c

   Which of these statements hold for all a, b ∈ ℤ?

4. Consider the following equivalence statements where a, b ∈ ℤ:
   a) a + b = b + a
   b) a ⋅ b = b ⋅ a
   c) a ⋅ (b + c) = a ⋅ b + a ⋅ c
   d) (a + b) ⋅ c = a ⋅ c + b ⋅ c
   e) a ⋅ (b ⋅ c) = (a ⋅ b) ⋅ c

   Which of these statements hold for all a, b ∈ ℤ?