Integers: Exercise 1.2

Q.1 Write down a pair of integers whose:
(a) sum is –7 (b) difference is –10 (c) sum is 0
Sol:
(a) Integers -3 and -4 is a pair of integers.
Whose sum, (-3) + (-4) = -3 – 4
= -7
(b) Integers -12 and -2 is a pair of integers.
Whose difference, (-12) – (-2) = -12 + 2
= -10
(c) Integers -3 and 3 is a pair of integers.
Whose sum, (-3) + (3) = -3 + 3
= 0

Q.2 (a) Write a pair of negative integers whose difference gives 8.
(b) Write a negative integer and a positive integer whose sum is –5.
(c) Write a negative integer and a positive integer whose difference is –3.
Sol: (a) Integers -2 and -10 is a pair of negative integers.
Whose difference = (-2) – (-10) = -2 + 10
= 8
(b) -7 is a negative integer and 2 is a positive integers.
Whose sums, (-7) + (2) = -7 + 2
= -5
(c) -2 is a negative integer and 1 is a positive integer.
Whose difference, (-2) – (1) = – 2 – 1
= – 3

Q.3 In a quiz, team A scored – 40, 10, 0 and team B scored 10, 0, – 40 in three successive rounds. Which team scored more? Can we say that we can add integers in any order?
Sol: In a quiz, score by team A in three successive rounds = -40, 10, 0
Total score by team A = – 40 + 10 + 0
= – 30
Score by team B in three successive rounds = 10, 0, -40
Total score by team B = 10 + 0 + (-40)
= 10 + 0 – 40
= – 30
Thus, the score by both teams A and B is same.
Yes, we can say that we can add these integers in any order.

Q.4 Fill in the blanks to make the following statements true:
(i) (– 5) + (– 8) = (– 8) + (.....)
(ii) – 53 + ... = – 53

(iii) 17 + ... = 0
(iv) [13 + (−12)] + (.....) = 13 + [(−12) + (−7)]
(v) (− 4) + [15 + (−3)] = [− 4 + 15] + ...
Sol:
(i) Given: (− 5) + (− 8) = (− 8) + (.....)
Let x be the missing integer.
(− 5) + (− 8) = (− 8) + (x)
− 5 − 8 = − 8 + x
-13 = -8 + x
x = -13+8
x = -5
Thus, the true statement: (− 5) + (− 8) = (− 8) + (−5)

(ii) Given: − 53 + ... = − 53
Let x be the missing integer.
− 53 + x = − 53
x = -53 +53
x = 0
Thus, the true statement: − 53 + 0 = − 53

(iii) Given: 17 + ... = 0
Let x be the missing integer.
17 + x = 0
x = 0 -17
x = -17
Thus, the true statement: 17 + (-17) = 0

(iv) Given: [13 + (−12)] + (.....) = 13 + [(−12) + (−7)]
Let x be the missing integer.
[13 + (−12)] + (x) = 13 + [(−12) + (−7)]
[13 −12] + (x) = 13 + [−12−7]
1 + x = 13 − 19
x = -6-1
x = -7
Thus, the true statement: [13 + (−12)] + (-7) = 13 + [(−12) + (−7)]

(v) Given: (− 4) + [15 + (−3)] = [− 4 + 15] +.....
Let x be the missing integer.
(− 4) + [15 + (−3)] = [− 4 + 15] + x
(− 4) + [15 −3] = [− 4 + 15] + x
(− 4) + [12] = [11] + x
-4 + 12 = 11 + x
8 = 11 + x
x = 8-11
x = -3
Thus, the true statement: (− 4) + [15 + (−3)] = [− 4 + 15] + (-3)