Date : 18th Nov 2023 **Logical Reasoning - Number Analogy** English

**Q:1** Select the number-pair in which the two numbers are related in the same way as the two numbers of the following number-pair.
4 : 128
**1.** 6 : 430
**2.** 3 : 54
**3.** 2 : 32
**4.** 9 : 152

**Q:2** Select the set in which the numbers are related in the same way as the numbers of the following set.
(12, 54, 15)
(11, 46, 12)
**1.** (12, 60, 12)
**2.** (15, 51, 10)
**3.** (13, 70, 17)
**4.** (10, 58, 19)

**Q:3** Select the related number set from the given alternatives.
6 : 18 :: ?
**1.** 10 : 25
**2.** 5 : 10
**3.** 8 : 32
**4.** 4 : 9

**Q:4** Select the number pair in which the three numbers are related in the same way as the two numbers of the following number pair.
9 : 90 :: 12 : 156 :: 15 : ?
**1.** 220
**2.** 230
**3.** 240
**4.** 225

**Q:5** Select the option in which the numbers share the same relationship as that shared by the given pair of numbers.
(6, 4, 28)
(7, 5, 39)
**1.** (8, 6, 52)
**2.** (3, 1, 8)
**3.** (9, 2, 75)
**4.** (5, 2, 29)

**Q:6** Select the option that is related to the third number in the same way as the second number is related to first number and the sixth number is related to the fifth number.
89 : 34 :: 62 : **?** :: 45 : 18
**1.** 60
**2.** 61
**3.** 64
**4.** 63

**Q:7** Select the option in which the numbers are related in the same way as the numbers of the following set.
(59, 20, 13)
(49, 14, 15)
**1.** (68, 13, 12)
**2.** (81, 87, 11)
**3.** (38, 8, 44)
**4.** (58, 18, 13)

**Q:8** Select the option in which the numbers are related in the same way as the numbers of the following set.
(69, 12, 13)
(58, 8, 15)
**1.** (39, 13, 12)
**2.** (91, 8, 11)
**3.** (78, 8, 11)
**4.** (67, 10, 13)

**Q:9** Select the set in which the numbers are related in the same way as are the numbers of the following sets.
(NOTE : Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g. 13 – Operations on 13 such as adding /deleting /multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is NOT allowed)
(11, 33, 17), (18, 54, 24)

**1.** (8, 24, 17)
**2.** (9, 27, 11)
**3.** (3, 9, 7)
**4.** (5, 15, 11)

**Q:10** Select the option that is related to the third



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number in the same way as the second number is related to the first number.

5 : 27 :: 9 : ?

**1.** 80
**2.** 85
**3.** 83
**4.** 91



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## Answer Key

| | | | | |
|---|---|---|---|---|
| **1.** (2) | **2.** (4) | **3.** (3) | **4.** (3) | **5.** (1) |
| **6.** (3) | **7.** (4) | **8.** (4) | **9.** (4) | **10.** (3) |

## Answers and Solutions

**Q:1** The correct answer is **Option 2** i.e. **3 : 54**
Logic → X : $2X^3$
Given pair
4 : 128
Here,
$2 \times 4^3 = 2 \times 64 = 128$
Similarly, 3 : 54
$2 \times 3^3 = 2 \times 27 = 54$
Hence, **3 : 54** is the correct answer.

**Q:2** The correct answer is **Option 4** i.e. **(10, 58, 19)**
(x, y, z)
y = (x + z) × 2
(12, 54, 15)
Here,
(12 + 15) × 2 = 27 × 2 = 54
**Check all options one by one:**
(12, 60, 12)
12 + 12 = 24 × 2 = **48 is not equal to 60.**
(15, 51, 10)
15 + 10 = 25 × 2 = **50 is not equal to 51.**
(13, 70, 17)
13 + 17 = 30 × 2 = **60 is not equal to 70.**
(10, 58, 19)
10 + 19 = 29 × 2 = 58
**58 = 58**

**Q:3** The correct answer is **Option 3** i.e. **8 : 32**
The pattern used is:
First number: A
Second number = $A^2/2$
So the number set which follows a similar pattern is **(8 : 32)**
**A = 8**
**B = $8^2/2$ = 32**

**Q:4** The correct answer is **Option 3** i.e. **240**
**Logic:**
Second number = First number × (First number + 1)
9 : 90
9 × (9 + 1) = 9 × 10 = 90
Similarly,
12 : 156
12 × (12 + 1) = 12 × 13 = 156
So, 15 × (15 + 1) = 15 × 16 **= 240**
Hence, the correct answer is **240.**

**Q:5** The correct answer is **Option 1** i.e. **(8, 6, 52)**
**Logic:** (First number)$^2$ - 2 × Second number = Third number
Given series: (6, 4, 28)
$(6)^2 - 2 \times 4 = 36 - 8 = 28$
and, (7, 5, 39)
$(7)^2 - 2 \times 5 = 49 - 10 = 39$
Similarly, (8, 6, 52)
$(8)^2 - 2 \times 6 = 64 - 12 = 52$
Hence, the correct answer is **(8, 6, 52).**

**Q:6** The correct answer is **Option 3** i.e. **64**
**Logic**: The absolute difference of the square of digits of the 1st number is multiplied by 2 to obtain the 2nd number.
**1st** number = 89
**2nd** number = $[(9^2 - 8^2) \times 2] = [(81 - 64) \times 2] = (17 \times 2) = 34$
The absolute difference of the square of digits of the 5th number is multiplied by 2 to obtain the 6th number.
**5th** number = 45
**6th** number = $[(5^2 - 4^2) \times 2] = [(25 - 16) \times 2] = (9 \times 2) = 18$
Similarly,
The absolute difference of the square of digits of the 3rd number is multiplied by 2 to obtain the 4th number.
**3rd** number = 62
**4th** number = $[(6^2 - 2^2) \times 2] = [(36 - 4) \times 2] = (32 \times 2) = 64$
So, **4th number = 64.**

**Q:7** The correct answer is **Option 4** i.e. **(58, 18, 13)**
**Logic**: The following logic is used
**(59, 20, 13)**



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= [(5 + 9) - (1 + 3)] × 2
= (14 - 4) × 2
= 20
Similarly,
**(49, 14, 15)**
= [(4 + 9) - (1 + 5)] × 2
= (13 - 6) × 2
= 7 × 2
= 14
1. (68, 13, 12)
= [(6 + 8) - (1 + 2)] × 2
= (14 - 3) × 2
= 22 (not equal to 13)
2) (81, 87, 11)
[(8 + 1) - (1 + 1)] × 2
= (9 - 2) × 2
= 14 (not equal to 87)
3) (38, 8, 44)
[(3 + 8) - (4 + 4)] × 2
= (11 - 8) × 2
= 6 (not equal to 8)
4) (58, 18, 13)
[(5 + 8) - (1 + 3)] × 2
= (13 - 4) × 2
= 18 equal to 18
Hence, the correct answer is **(58, 18, 13).**

**Q:8** The correct answer is **Option 4** i.e. **(67, 10, 13)**
**Logic**: The following logic is used
**(69, 12, 13)**
= (6 + 9) - (1 × 3)
= (15 - 3)
= 12
Similarly,
**(58, 8, 15)**
= (5 + 8) - (1 × 5)
= (13 - 5)
= 8
1. (39, 13, 12)
= (3 + 9) - (1 × 2)
= (12 - 2)
= 10
= 10 (not equal to 13)
2) (91, 8, 11)
= (9 + 1) - (1 × 1)
= (10 - 1)
= 9
= 9 (not equal to 8)
3) (78, 8, 11)
= (7 + 8) - (1 × 1)
= (15 - 1)
= 14
= 14 (not equal to 8)
4) (67, 10, 13)
= (6 + 7) - (1 × 3)
= (13 - 3)
= 10
Hence, the correct answer is **(67, 10, 13).**

**Q:9** The correct answer is **Option 4** i.e. **(5, 15, 11)**
**Logic**: The following logic is used
**(11, 33, 17)**
= 11 × 3 = 33, 11 + 6 = 17
Similarly,
**(18, 54, 24)**
= 18 × 3 = 54, 18 + 6 = 24
1. (8, 24, 17)
= 8 × 3 = 24, 8 + 6 = 14 not 17
2) (9, 27, 11)
= 9 × 3 = 27, 9 + 6 = 15 not 11
3) (3, 9, 7)
= 3 × 3 = 9, 3 + 6 = 9 not 7
4) (5, 15, 11)
= 5 × 3 = 15, 5 + 6 = 11
Hence, the correct answer is **(5, 15, 11)**

**Q:10** The correct answer is **Option 3** i.e. **83**
**5 : 27**
$5^2 + 2 = 25 + 2 = 27$
9 : ?
$9^2 + 2 = 81 + 2 = 83$



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