**Quiz Date: 20ᵗʰ April 2020**

**Directions (1-5):** Read the data carefully and answer the questions.
There are 900 students in school 'X' and they like two Indian cricket players, i.e. either **Virat Kohli** or **M.S. Dhoni.**
The ratio of boys to girls like **M.S. Dhoni** is 13 : 7 and total number of boys like **Virat Kohli** is 30 less than total number of girls like **M.S. Dhoni**. Total number of girls like **Virat Kohli** is 60 less than boys like **Virat Kohli.**

Q1.  Find difference between total number of boys like M.S. Dhoni & total number of boys like Virat Kohli?
(a) 210
(b) 220
(c) 225
(d) 230
(e) 250

Q2. Find the ratio between total number of Girls Like M.S. Dhoni to total number of Girls Like Virat kohli?
(a) 8 : 5
(b) 7 : 4
(c) 7 : 3
(d) 7 : 2
(e) 7 : 9

Q3. Total number of boys like M.S. Dhoni & Virat Kohli together is what percent more than total number of girls like M.S. Dhoni & Virat Kohli together?
(a) $63\frac{8}{11}\%$
(b) $65\frac{8}{11}\%$
(c) $71\frac{8}{11}\%$
(d) $72\frac{8}{11}\%$
(e) $75\frac{8}{11}\%$

Q4. In school 'Y' number of boys like M.S. Dhoni and Virat Kolhi is $133\frac{1}{3}\%$ & 175% more than total number of girls like M.S. Dhoni & Virat Kolhi in school 'X' respectively. Find difference between total number of boys like M.S. Dhoni & Virat Kohli together in school 'X' to total number of boys like M.S. Dhoni & Virat Kohli together in school 'Y'?
(a) 225
(b) 220
(c) 230
(d) 250
(e) 260

Q5. Find average number of Boys & girls like M. S. Dhoni?
(a) 300
(b) 275
(c) 320
(d) 360
(e) 250

**Directions (6-10):** What should come in place of the question mark (?) in the following number series?

Q6. 3, 52, 88, 113, 129, ?
(a) 148
(b) 142
(c) 133
(d) 145
(e) 138

Q7. 2, 3, 8, ?, 112, 565
(a) 36
(b) 14
(c) 27
(d) 45
(e) 54

Q8. 6, 4, 8, 23, ?, 385.25
(a) 84.5
(b) 73
(c) 78.5
(d) 82
(e) 86

Q9. 8, 64, 216, 512, ?, 1728
(a) 729
(b) 1331
(c) 684

(d) 1000
(e) 1004

Q10.  1,   1,   2,   6,   24,   120,   720,   ?
(a) 4050
(b) 5060
(c) 5040
(d) 6050
(e) 4455

**Directions (11-15):** Data given below gives the information regarding four different products A, B, C and D (in units) sold by a company in year 2014 and 2015. Read the data carefully to answer the following questions.

**In 2014 –** Ratio of units sold of product A to product D is 2 : 1. Units sold of product C is 144% of units sold of product D. Average number of units sold of product A, C and D is 370 units. Total units sold of product A, B, C and D is 1340 units.

**In 2015 –** Average number of units sold of product C & D is 475 units. Units sold of product A is 75 units less than the units sold of product D. Units sold of product B is increased by 40% as compared to previous year and average units sold of product B & D is 411 units.

Q11. Find the percentage change in units sold of product A in 2015 as compared to previous year.
(a) 15% increase
(b) 15% decrease
(c) $17\frac{11}{17}$% increase
(d) $17\frac{11}{17}$% decrease
(e) None of the above.

Q12. Find the ratio of units sold of product A & D together in 2014 to units sold of product C & D together in 2015.
(a) 15 : 19
(b) 12 : 17
(c) 5 : 3
(d) 9 : 7
(e) 11 : 6

Q13. Find the difference in average units sold of product A, B, C and D in 2014 and average units sold of product A, B, C and D in 2015.
(a) 67.25
(b) 73.25
(c) 82.25
(d) 87.25
(e) 89.25.

Q14. In 2014, selling price of per unit of product D is Rs.12 and selling price of per unit of product B is Rs.15. Find total revenue generated from product B in 2014 is what percent of total revenue generated from product D in 2014?
(a) 125%
(b) 145%
(c) 135%
(d) 115%
(e) 105%

Q15. Units sold of product B & C together in 2014 is what percent more than units sold of product – D in 2015?
(a) 12%
(b) 30%
(c) 24%
(d) 18%
(e) 36%



**Solutions**

**S (1-5):**
Let total number of boys and girls like M.S. Dhoni is 13x & 7x respectively
And. Total number of boys like Virat Kohli = 7x − 30
While total number of girls like Virat Kohli = 7x −30 − 60 = $7x - 90$
ATQ –
13x + 7x + (7x −30) + ($7x - 90$) = 900
34x = 1020
x = 30

| Boys like M.S. Dhoni | Girls Like M.S. Dhoni | Boys Like Virat Kohli | Girls like Virat Kohli |
|---|---|---|---|
| 13× 30 = 390 | 7 × 30 = 210 | 7 × 30 − 30 = 180 | 7 × 30 − 90 = 120 |

S1. Ans(a)
Sol.
Required difference = 390 – 180 = 210

S2. Ans(b)
Sol.
Required ratio = $\frac{210}{120}$
$\qquad\qquad$ = 7 : 4

S3. Ans(d)
Sol.
Total number of boys like M.S. Dhoni & Virat Kohli = 390 + 180 = 570
Total number of girls like M.S. Dhoni & Virat Kohli = 210 + 120 = 330
Required percentage = $\frac{570-330}{330} \times 100$
$\qquad\qquad\qquad\quad$ = $\frac{240}{330} \times 100$
$\qquad\qquad\qquad\quad$ = $72\frac{8}{11}\%$

S4. Ans(d)
Sol.
Total number of boys like M.S. Dhoni & Virat Kohli together in school 'Y'
= $210 \times \frac{7}{3} + 120 \times \frac{275}{100}$
= 490 + 330
= 820
Required difference = 820 – (390 + 180)
$\qquad\qquad\qquad\quad$ = 250

S5. Ans(a)
Sol.
Required average = $\frac{390+210}{2}$
$\qquad\qquad\qquad$ = 300

S6. Ans.(e)
Sol. The pattern of the number series is$+7^2, +6^2, +5^2, +4^2, +3^2$
? = 138

S7. Ans.(c)
Sol. The pattern of the number series is $\times 1 + 1, \times 2 + 2, \times 3 + 3, \times 4 + 4, \times 5 + 5$
? = 27

S8. Ans.(a)
Sol. The pattern of the number series is$\times 0.5 + 1, \times 1.5 + 2, \times 2.5 + 3, \times 3.5 + 4, \times 4.5 + 5$
? = 84.5

S9. Ans.(d)
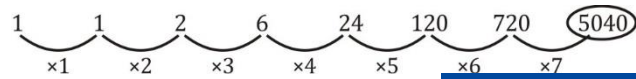Sol. The number series is $2^3, 4^3, 6^3, 8^3, 10^3, 12^3$
? = 1000

S10. Ans.(c)
Sol.



1  —  1  —  2  —  6  —  24  —  120  —  720  —  (5040)
    ×1   ×2   ×3   ×4    ×5     ×6     ×7



**S (11-15):**
In 2014:
Let units sold of product – A & D be '2x' & 'x' units respectively,
So, units sold of product – C = $x \times \frac{144}{100}$ = 1.44x
ATQ,
$\frac{x + 1.44x + 2x}{3}$ = 370
⇒ 4.44x = 1110
⇒ x = 250
So, units sold of product – A = 2x = 500 units
Units sold of product – C = 1.44x = 360 units
Units sold of product – D = x = 250 units
Units sold of product – B = 1340 – (500 + 360 + 250) = 230 units

In 2015:
Units sold of product – B = 230 × $\frac{140}{100}$ = 322 units
Let units sold of product – D be 'x units'.
So,
$\frac{322 + x}{2}$ = 411
x = 500 units
Let units sold of product – C be 'y units'.
So, $\frac{500 + y}{2}$ = 475
y = 450 units
and units sold of product – A = 500 – 75 = 425 units.

| Products | 2014 | 2015 |
|----------|------|------|
| A | 500 | 425 |
| B | 230 | 322 |
| C | 360 | 450 |

| D | 250 | 500 |
|---|-----|-----|

S11. Ans.(b)
Sol. Required % = $\frac{500 - 425}{500} \times 100$ = 15% decrease

S12. Ans.(a)
Sol. Required ratio = $\frac{500 + 250}{450 + 500}$
= $\frac{750}{950}$
= 15 : 19

S13. Ans.(e)
Sol. Required difference = $\left(\frac{425 + 322 + 450 + 500}{4}\right) - \left(\frac{500 + 230 + 360 + 250}{4}\right)$ = 424.25 – 335
= 89.25

S14. Ans.(d)
Sol. Total revenue generated from product – B in 2014 = 230 × 15 = Rs.3450
Total revenue generated from product – D in 2014 = 250 × 12 = 3000 Rs.
Required % = $\frac{3450}{3000} \times 100$ = 115%

S15. Ans.(d)
Sol. Units sold of product – B and C together in 2014 = 230 + 360 = 590 units
So, required % = $\frac{590 - 500}{500} \times 100$
= $\frac{90}{5}$%
= 18%

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