

Solutions

S1. Ans.(d)

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= =

S2. Ans(c)

Sol: LCM of (8, 15, and 18) = 360

Minimum number added to make it perfect cube = $360 + 152 = 512$

Sum of digit of number which is added = $1 + 5 + 2 = 8$

S3. Ans(b)

Sol: LCM of (5, 8, 12 and 15) = 120

For the greatest 4 digit number = $120k + 4$

put $k = 83$

= $120 \times 83 + 4$

= 9964

S4. Ans.(c)

Sol. 509xy0 divisible by 3 if sum of digits

Divisible by 3 $\Rightarrow =$ _____ (1)

Divisible by 11 $\Rightarrow 5 + 9 + y - x = 11 \Rightarrow x - y = 3$ _____ (1)

Now from (1) $x + y = 7$, $x - y = 3$

$x = 5$, $y = 2$

The number is 509520

S5. Ans.(c)

Sol. 9digit number will be divisible by factor of 36, by 9 and 4.

For divisible by 4

Largest possible value of $Y = 8$

Now for divisible by 9

=

Possible value of $x = 7$

Now,

$11x^2 - 5y^2 = 11 \times 49 - 5 \times 64$

= $539 - 320$

= 219

S6. Ans.(c)

Sol. L.C.M of (3, 7, 11) = 231

Let the maximum number divisible by 231 is 11799,

Maximum number divisible

= $11799 - 18$

= 11781

$x = 8$, $y = 1$

Now, $(x + y)$

= $8 + 1 = 9$

S7. Ans.(c)

Sol.

On Comparing both

$$a = 3, b = 1, c = 1$$

Now,

$$(a + b + c) = (3 + 1 + 1) = 5$$

S8. Ans.(c)

Sol. L.C.M of (3, 7 and 11) = 231

Let the largest five-digit number = 10399

P now, largest five-digit no.

$$= 10399 - 4 = 10395$$

$$a = 9, b = 5$$

Now,

$$(a + b)^3 = a^3 + b^3 + 3ab(a + b)$$

$$= (9 + 5)^3 = 14^3 = 2744$$

S9. Ans.(d)

Sol. [168, 210, 264]

$$210 - 168 = 42 = 2 \times 3 \times 7$$

$$264 - 210 = 54 = 2 \times 3^3$$

$$264 - 168 = 96 = \times 3$$

HCF of 42, 54 and 96 be $2 \times 3 = 6$

Now,

Remainder when 168 is divided by 6 is 0

So, $x = 6$ and $y = 0$

Then $= = 0$

S10. Ans.(d)

Sol.

Let the No. be

$$P = 21 \times 1 + 4 = 25$$

$$Q = 21 \times 1 + 9 = 30$$

$$R = 21 \times 1 + 8 = 29$$

Now,

=

= = 7 Remainder

S11. Ans.(d)

Sol. =

=

=

= 3 +

S12. Ans.(c)

Sol. Let the required number is x.

$$\times x = (3)^3$$

$$= 27 \Rightarrow x = 189$$

S13. Ans.(c)

Sol. Let the number is x

x =

S14. Ans.(d)

Sol.

$$= 2 \Rightarrow x + 2 = 6$$

$$x = 4$$

S15. Ans.(a)

Sol.

$$x = 1$$