Digital SUM :

Day 4

9's and 3's Remainder Method

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Digital Sum - 9's Remainder Method
Baby Digital Sum - 3's Remainder Method

9's	3's
9) Any number (	3) Any Numbers (
R = ___	R = ___
digital sum	baby digital sum
R = 1 2 3 8	R = 1, 2
	ignore = 0, 3

ignore { R = 0 : 81 ÷ 9 ⇒ Q = 9, R = 0
R = 9 : 9 ÷ 9 ⇒ R = 0

Eg:
321 = 3+2+1 = 6
2358 = 2+3+5+8 = 18 = 1+8 = 9 = 0

9 → completly divisible

(*) 9's and sum of digits that give 9 should be ignored

2 7 0 3 2
→ 2+3 = 5 //

Eg: $\frac{0}{X} = 0$

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(*) Division

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3 6 9

[1 2 4 5 7 8]

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Eg: $\frac{27}{9}$

$\frac{27}{9} \div \frac{9}{9} = (3)$

(1) $1.5 + 32.5 + 23.9 = ?$

a = 67.3

b = 57.9

c = 37.6

d = 47.8

$(1+5) + (3+2+5) + (2+3+9)$

$5+7 = 12$ $6 + 10 + 14$

$= 1+2$ $6 + 1 + 5$

$= 3$

$12 \rightarrow 1+2 = 3$

(2) $321 + 467 + 2311 = ?$

a = 4099

b = 5099

c = 6099

d = 3099

$6 + 17 + 7$

$6 + 8 + 7$

$21 \rightarrow 2+1 \rightarrow 3$

3

Digital Sum

(*) Sum of digits

(*) To sigle digits

(3) Digital sum of 93 - 21 ?

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a = 0
b = 1
c = 2
d = 3

(9+3) - (2+1)
12 - 3
(1+2) - 3
3 - 3 = 0

Top questions

(4) 637.28 − 781.47 + 257.39

a = 113.2 =7
b = 104.3
c = 133.44
d = 138.54

(6+3+7+2+8) − (7+8+1+4+7) + (2+5+7+3+9)
26 − 27 + 26
= 8 − 9 + 8
= 16
= 7//

(5) 53% of 120 + 25% of 862 = ?% of 500

a = 92.5
b = 63.68
c = 55.82
d = 38.89

8 × 3 + 7 × 7 = x % of 500
24 + 49 = 5x
20 ⇒ 2+0
6 + 4 = 5x
10 = 5x
10 = 5x
1 = 5x ⇒ x = 1/5

1/5 × 2 = 2/10 = 2/1 = 2//

(6) If x = 2, find $x^3 + 27x^2 + 243x + 631$

a = 1233
b = 1211
c) 1231
d = 1311

1+2+3+3
9

$(2)^3 + 0xx^2 + 0xx + 1$
8 + 1 = 9 = 0//

0 (or) 9

(7) If $X = 2$, $Y = 9$ and

$$A = \frac{x^8 - 1}{x^4 + 1} \quad B = \frac{y^4 - 1}{y^2 + 1}$$ then

find $A^2 + 2AB + AB^2$

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$a^2 - b^2 = (a+b)(a-b)$

a = 8.9125 → = 7
b = 92425 → = 4
c = 986.25 → = 2+1 = 3
d = 96475 → = 2+2 = 4

$$A = \frac{x^8 - 1}{x^4 + 1} = \frac{(x^4 - 1)(x^4 + 1)}{(x^4 + 1)} = x^4 - 1 //$$

$$B = \frac{y^4 - 1}{y^2 + 1} = \frac{(y^2 - 1)(y^2 + 1)}{(y^2 + 1)} = y^2 - 1 //$$

$A = x^4 - 1$
$= 2^4 - 1$
$= 16 - 1 = 15$
$A = 1 + 5 = (6)$

$B = y^2 - 1$
$= 9^2 - 1$
$= 81 - 1 = 80$
$B = 8 + 0 = (8)$

$A^2 + 2AB + AB^2$
$6^2 + 2(6)(8) + (6 \times 8)^2$
$36 + 96 + (48)^2$
$36 + 96 + 2304$

$36 + 2 \times 6 \times 8 + 6 \times 64$
$0 + 6 + 6 \times 1$
$6 + 6 = 12$
$1 + 2 = 3$

(8) $(1004)^2 - (998)^2 =$ _____

a - 11012
b - 12012
c - 220012
d - 2212

$(1+0+0+4)^2 - (9+9+8)^2$
$(25) - (64)$
$2+5 - 6+4$
$7 - 10$
$7 - 1+0$
$7 - 1 = 6$

(9) If $A = \frac{1}{0.4} + \frac{1}{0.04} + \frac{1}{0.004} + \ldots$ upto 8 terms

then find 'A'.

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a. 25252525.5

b. 25555555.5

c. 27272727.5

d. 27777777.5

$\frac{1}{(4/10)} = \frac{10}{4} = \frac{5}{2} = 2.5 = 2+5 = 7$

$7 + 7 + 7 + \ldots (7 \times 8) = 56$

$= 5+6 = 11$

$= 1+1 = 2$

$42+5 = 47 = 11 = 1+1 = 2$

(10) Find value of $(1,000,001)^2 - (999,999)^2$

a. 2000000

b. 4000000

c. 6000000

d. 8000000

$(2)^2 - (0)^2$

4

(11) Which minimum number should be added to 13851 so that it will be divided by 87 exactly

a 19

b 43

c 69

d 52

$\frac{13851 + (x)}{87} = \frac{\quad}{87 \times 7} = \frac{\quad}{15}$ divisible by 3

find which is divisible by 3

(12) $375375 \div 455 + 13.3\%$ of $8600 - 15.7\%$ of $9240 = 40\%$ of x

Find the value of 'x'

a 1116.3

b 1295.3

c 2021.4

d 1305.3

$\frac{375375}{455} = \frac{3+0}{1+4} = \frac{3 \times 2}{5 \times 2} = \frac{6}{10} = \frac{6}{1} = 6$

$= 11 = 2$

	1	2	4	7	8
×	1	5	7	4	8

10 = 28
10

$(375375 \div 455) + 13.3\%$ of $8600 - 15.7\%$ of $9240 = 40\%$ of x

$\Rightarrow 6 + 8 - 6 = 4x$

$\Rightarrow \frac{8}{4} = \frac{2}{1} = x$

$x = 2$

1 part
$375375 \div 455 = (6)$

2 part
13.3% of 8600
7×14
$7 \times 5 = 35 = (8)$

3 part
15.7% of 9240
13×6
$4 \times 6 = 24$
$= (6)$

4 part
40% of x
$\frac{40}{100} = \frac{4}{10}$ of x
$4 \times x$

13 Find the value of:

$$\frac{6410.25}{3465} + 1.21 \times 1.18 \times 1.25 + 1.392\% \text{ of } 1605 + \frac{(1.4)^3 - (1.45)^2}{(1.4)^0}$$

a. 26.4851
b. 24.3524
c. 28.8232
d. 27.6828

$\frac{6410.25}{3465} \div 9 \div 9 = \frac{712.25}{385} = \frac{8}{7} \times \frac{4}{4}$

$= \frac{32}{28} = \frac{5}{1.0}$

$= (5)$

$1.21 \times 1.18 \times 1.25 = 4 \times 1 \times 8 = 32 = (5)$

$6 \times 3 = 18 = 9$

$= 8 - 1$

14 From his monthly income, X spends 24% on household expense, 16% on entertainment, 28% on education out of remaining donates 72% money and will be left with 2403.52. Find his monthly income.

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a = 24725 : 2
b = 26825 : 13+5
c = 25625 : 11+2
d = 24325 : 3

24%.
16%.
28%. } +68%.

Savings 32% → 72% donate
savings 28%.

$x \quad 32\% \quad 28\% = 2403.82$

$x * (3+2) * (2+8) - = 7$

$x * 5 * 10 = 7$

$x \cdot 5 \cdot 1 = 7$

$5x = 7$

$x = 7/5 \times \frac{2}{2} = \frac{14}{10} = 1+4 = (5)$

15 Jeetu buys 14 sarees at an avg cost of Rs 835 If he buys 11 sarees more at avg cost of ₹645 what will be the avg cost of all sarees he bought?

a. 751.40 = 8
b. 734.14 = 11+3
c. 725.64 = 11+4
d. 767.44

$= \frac{14 \times 835 + 11 \times 645}{14+11} = \frac{35+12}{8+3}$

$= \frac{11}{25} \times \frac{4}{4} = \frac{44}{100}$

$= 44 = (8)$

16 what is the value of

$$-15 + \overset{\div 9}{(90)} \div [89 - 19 \times 8 + (33 - 3 \times 7)]$$

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a 5
b 2
c 3
d 4

$-15 + 0$

$-(1+5)$

$-6 + 0$

$-6 + 9 = 3$ //

$\frac{0}{\text{anything}} = 0$.

∴ if -ve no/ comes while dividing by 9 do [+9] to the value