

unit digit

5687(9) $\Rightarrow$ unit digit

$$1^1 = 1$$

$$1^2 = 1$$

$$2^1 = 2$$

$$2^2 = 4$$

$$2^3 = 8$$

$$2^4 = 16$$

$\times 2$
(32)

$$2^6 = 2$$

$$2^7 = 4$$

$$2^8 = 8$$

$$2^9 = 6$$

$$2^{10} = 2$$

$\times 3$

$$3^1 = 3$$

$$3^2 = 9$$

$$3^3 = 7$$

$$3^4 = 1$$

$$3^5 = 3$$

$$3^6 = 9$$

$$3^7 = 7$$

$$3^8 = 1$$

$$3^9 = 3$$

$$3^1 = 3$$

$$3^2 = 9$$

$$3^3 = 7$$

$$3^4 = 1$$

$$3^1 = 3$$

$$3^2 = 9$$

$$3^3 = 7$$

$$3^4 = 1$$

$$78 \div 4 = 19 \text{ R} = 2$$

$$3^2 = 9$$

$$16$$

$$3$$

$$3^4 = 1$$

$$16 \div 4 = 4 \text{ R} = 0$$

$$3^0 = 1$$

0 1 5 6

4, 9

2 3 7 8

power (4)

$$4^1 = 4$$

$$4^2 = 16$$

$$4^3 = 4$$

$$4^4 = 6$$

$$4^5 = 4$$

$$4^{\text{odd}} = 4$$

$$4^{\text{even}} = 6$$

$$9^1 = 9$$

$$9^2 = 1$$

$$9^3 = 9$$

$$9^4 = 1$$

$$9^{\text{odd}} = 9$$

$$9^{\text{even}} = 1$$

U.D.

Type - 01

1. What will be the unit digit of $4 \times 38 \times 764 \times 1256$

- (a) 6 (b) 8 (c) 4 (d) 5

$4 \times 8 \times 4 \times 6$ u (8)

2. What is the unit digit in the co-efficient. $813 \times 986 \times 471 \times 603$

- (a) 6 (b) 4 (c) 2 (d) 3

$3 \times 6 \times 1 \times 3$ u (4)

3. Find the unit digit of the product. $127 \times 137 \times 413 \times 291 \times 342 \times 533 \times 342$

- (a) 6 (b) 8 (c) 10 (d) 4

$7 \times 7 \times 3 \times 1 \times 2 \times 3 \times 2$ u (4)

4. What is the unit digit of the product of all the prime numbers between 51 and 78?

- (a) 6 (b) 7 (c) 2 (d) 3

53 59 61 67 71 73
 7 7 9 9 7

5. Find the unit digit product of all prime number.

- (a) 3 (b) 5 (c) 0 (d) 2

2 x 3 x 5 x 7 x 11 x 13 ...

Type - 02

216
6

1. What is the unit digit of 216²¹⁶

- (a) 2 (b) 4 (c) 6 (d) 8

2. Find the unit digit in the given factor $(3451)^{51} \times (531)^{43} \cdot (3451)^{51} \times (531)^{43}$

- (a) 6 (b) 4 (c) 1 (d) 9

3. Find the unit digit in the given factors. $(4211)^{102} \times (361)^{52}$

- (a) 3 (b) 1 (c) 4 (d) 7

1 × 1 = 1

4. Find the unit digit 225^{66}

- (a) ~~5~~ (b) 3 (c) 4 (d) None of these

5. Find the unit digit. $(211)^{102} \times (36676)^{52} \times (2695)^{102}$

- (a) 6 (b) ~~0~~ (c) 5 (d) 1

$$1 \times 6 \times 5 = 30$$

Type - 03

1. Find the unit digit in the following. $(1234)^{102} + (1234)^{10}$

(a) 2 (b) 4 (c) 0 (d) 1

$$6 + 6 = 12$$

2. Find the unit digit? $(1329)^{76} + (2359)^{123} + (1234)^{102}$

(a) 4 (b) 6 (c) 8 (d) 1

$$1 + 9 + 6 = 16$$

3. Find the unit digit? $(4)^1 \times (9)^2 \times (4)^3 \times (9)^4 \times (4)^5 \times (9)^6 \dots \times (4)^{99} \times (9)^{100}$

(a) 4 (b) 0 (c) 9 (d) 6

$$(4^1 \times 4^3 \times 4^5 \times \dots \times 4^{99}) \times (9^2 \times 9^4 \times 9^6 \times \dots \times 9^{100})$$

$$4^{50} \times 9^{50}$$

$$6 \times 1 = 6$$

$$2 \times 2 \times 2$$

4. Find the unit digit? $(4)^1 + (9)^2 + (4)^3 + (9)^4 + (4)^5 + (9)^6 + \dots + (4)^{99} + (9)^{100}$

(a) 0 (b) 4 (c) 9 (d) 1

$$(4^1 + 4^3 + 4^5 + \dots + 4^{99}) + (9^2 + 9^4 + 9^6 + \dots + 9^{100})$$

$$4 \times 50 + 4 \times 50$$

$$200 + 200$$

0

$$2 + 2 + 2 = 6$$

$$= 2 \times 3$$

2 3 7 8

Type - 04

1. Find the unit digit in. $(257)^{45}$

(a) 7 (b) 6 (c) 5 (d) 3

$$45 \div 4 = 11 \text{ R } 1$$

$$7^1 = 7$$

$$\frac{45}{4} \text{ R } 1$$

2. If $N = (307)^{38} + (524)^{20}$, then what is the Unit digit of N?

(a) 6 (b) 5 (c) 3 (d) 4

$$7^{38} + 4^{20}$$

$$7^2 + 4$$

$$9 + 6 = 15$$

$$\frac{38}{4} = \text{R } 2$$

3. Find the unit's digit in. $(263)^{149} + (263)^{150} + (163)^{151}$

(a) 3 (b) 9 (c) 7 (d) 1

$$\begin{aligned} & 3^{49} + 3^{50} + 3^{51} \\ & 3^1 + 3^2 + 3^3 \\ & 3 + 9 + 27 \\ & \textcircled{9} \end{aligned}$$

4. What is the unit digit of product of. $2^5 \times 25^2 \times 3^7$

(a) 1 (b) 2 (c) 0 (d) 5

$$\begin{aligned} & 2^5 \times 25^2 \times 3^7 \\ & 2 \times 5 \times 7 \end{aligned}$$

5. What is the last digit of. $56^{283} \times 141^{283} \times 125^{254}$

(a) 8 (b) 1 (c) 2 (d) 0

$$6 \times 1 \times 5 = 30$$

6. What will be the digit at unit's place in. $4523^{1632} \times 2224^{1632} \times 3225^{1632}$

(a) 1 (b) 0 (c) 4 (d) 5

$$\begin{aligned} & 3^4 \times 6 \times 5 \\ & 0 \end{aligned}$$

30 X

1. $(184)^{5!}$

- (a) 4 (b) 8 (c) 6 (d) 0

u⁴

$5! = 120$

$5 \times 4 \times 3 \times 2 \times 1$

$10! = 10 \times 9 \times 8 \times 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1$

2. $(2693)^{213!}$

- (a) 2 (b) 6 (c) 1 (d) 3

3⁴

3. $(2347)^{3!} \times (262)^{9!}$

- (a) 3 (b) 6 (c) 4 (d) 7

$7^6 \times 2^4$

$7^2 \times 6$

$9 \times 6 = 54$

$3! = 3 \times 2 \times 1 = 6$

$\frac{6}{4} R = 2$

4. $(9328)^{53!} \times (863)^{12!}$

- (a) 3 (b) 6 (c) 1 (d) 7

$8^4 \times 3^4$

6×1

$= 6$

$8 \times 8 \times 8 \times 8$

$6^4 \times 8^4$

(6)

5.. Find the digit in unit's place of the value $124^n \times 104^{(n+1)}$, where n is a whole number?

- (a) 4 (b) 8 (c) 2 (d) 0

$= =$

$4 \times 6 = 4$

$6 \times 4 = 4$

$n = \text{even}$

$n+1 = \text{odd}$

$n = \text{odd}$

$n+1 = \text{even}$