

Remainder Theorem (Number System)



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Remainder Theorem-Type 1

When Numerator is Positive

Q 1. What is the remainder of $\frac{35}{8}$?

1. 3
2. -3
3. 5
4. None of these

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Remainder Theorem-Type 1

When Numerator is Positive

Q 1. What is the remainder of $\frac{35}{8}$?

1. 3
2. -3
3. 5
4. None of these

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Remainder Theorem-Type 2

When Numerator is Negative

Q 2. What is the remainder of $\frac{-27}{7}$?

1. 6
2. -1
3. 1
4. -5



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Remainder Theorem-Type 2

When Numerator is Negative

Q 2. What is the remainder of $\frac{-27}{7}$?

- 1. 6
- 2. -1
- 3. 1
- 4. -5



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Remainder Theorem-Type 2

When Numerator is Negative

Q 3. What is the remainder of $\frac{-101}{10}$?

1. 9
2. -9
3. 1
4. -5

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Remainder Theorem-Type 2

When Numerator is Negative

Q 3. What is the remainder of $\frac{-101}{10}$?

1. 9
2. -9
3. 1
4. -5



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Remainder Theorem-Type 3

When Numerator is in the form of $a \times b$, $a + b$, $a - b$ etc.

Q 4. What is the remainder of $\frac{65 \times 78}{9}$?

1. 0
2. 6
3. -3
4. 3



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Remainder Theorem-Type 3

When Numerator is in the form of $a \times b$, $a + b$, $a - b$ etc.

Q 4. What is the remainder of $\frac{65 \times 78}{9}$?

- 1. 0
- 2. 6
- 3. -3
- 4. 3

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Remainder Theorem-Type 3

When Numerator is in the form of $a \times b$, $a + b$, $a - b$ etc.

Q 5. What is the remainder of $\frac{192 \times 37 \times 1958 \times 1956}{19}$?

1. 1
2. 2
3. 17
4. -1

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Remainder Theorem-Type 3

When Numerator is in the form of $a \times b$, $a + b$, $a - b$ etc.

Q 5. What is the remainder of $\frac{192 \times 37 \times 1958 \times 1956}{19}$?

1. 1
2. 2
3. 17
4. -1

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Remainder Theorem-Type 3

When Numerator is in the form of $a \times b$, $a + b$, $a - b$ etc.

Q 6. What is the remainder of $\frac{35+78}{9}$?

- 1. 0
- 2. 5
- 3. -5
- 4. 4



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Remainder Theorem-Type 3

When Numerator is in the form of $a \times b$, $a + b$, $a - b$ etc.

Q 6. What is the remainder of $\frac{35+78}{9}$?

- 1. 0
- 2. 5
- 3. -5
- 4. 4



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Remainder Theorem-Type 3

When Numerator is in the form of $a \times b$, $a + b$, $a - b$ etc.

Q 7. What is the remainder of $\frac{143+123}{14}$?

- 1. 0
- 2. 6
- 3. -3
- 4. 3

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Remainder Theorem-Type 3

When Numerator is in the form of $a \times b$, $a + b$, $a - b$ etc.

Q 7. What is the remainder of $\frac{143+123}{14}$?

- 1. 0
- 2. 6
- 3. -3
- 4. 3

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Remainder Theorem-Type 3

When Numerator is in the form of $a \times b$, $a + b$, $a - b$ etc.

Q 8. What is the remainder of $\frac{265-152}{25}$?

1. -13
2. 12
3. 17
4. 13

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Remainder Theorem-Type 3

When Numerator is in the form of $a \times b$, $a + b$, $a - b$ etc.

Q 8. What is the remainder of $\frac{265-152}{25}$?

- 1. -13
- 2. 12
- 3. 17
- 4. 13



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Remainder Theorem-Type 3

When Numerator is in the form of $a \times b$, $a + b$, $a - b$ etc.

Q 9. What is the remainder of $\frac{546-236-233}{20}$?

1. 18
2. -17
3. 3
4. 17

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Remainder Theorem-Type 3

When Numerator is in the form of $a \times b$, $a + b$, $a - b$ etc.

Q 9. What is the remainder of $\frac{546-236-233}{20}$?

1. 18
2. -17
3. 3
4. 17

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Remainder Theorem-Type 4

Factorial based

Q 10. What is the remainder of $\frac{1!+2!+3!+\dots+1000!}{10}$?

1. 18
2. -17
3. 3
4. 17

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Remainder Theorem-Type 4

Factorial based

Q 10. What is the remainder of $\frac{1!+2!+3!+\dots+1000!}{10}$?

- 1. 18
- 2. -17
- 3. 3
- 4. 17

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Remainder Theorem-Type 4

Factorial based

Q 11. What is the remainder of $\frac{1!+2!+3!+\dots+1000!}{12}$?

1. 9
2. -1
3. 3
4. 1

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Remainder Theorem-Type 4

Factorial based

Q 11. What is the remainder of $\frac{1!+2!+3!+\dots+1000!}{12}$?

1. 9
2. -1
3. 3
4. 1

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Remainder Theorem-Type 5

Unit Digit and Last two digits

Q 12. Find the unit digit $1! + 2! + 3! + 4! + \dots + 2019!$

- 1. 8
- 2. 1
- 3. 4
- 4. 3

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Remainder Theorem-Type 5

Unit Digit and Last two digits

Q 12. Find the unit digit $1! + 2! + 3! + 4! + \dots + 2019!$

- 1. 8
- 2. 1
- 3. 4
- 4. 3

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Remainder Theorem-Type 5

Unit Digit and Last two digits

Q 13. Find the last two digits $103 \times 1298 \times 18702 \times 1197$

1. 74
2. 18
3. 36
4. 6

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Remainder Theorem-Type 5

Unit Digit and Last two digits

Q 13. Find the last two digits $103 \times 1298 \times 18702 \times 1197$

1. 74
2. 18
3. 36
4. 6

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Remainder Theorem-Type 6

When fraction can be simplified

Q 14. Find the remainder of $\frac{103 \times 114 \times 80}{100}$

1. 45
2. 20
3. 60
4. 50



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Remainder Theorem-Type 6

When fraction can be simplified

Q 14. Find the remainder of $\frac{103 \times 114 \times 80}{100}$

- 1. 45
- 2. 20
- 3. 60
- 4. 50



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Remainder Theorem-Type 6

When fraction can be simplified

Q 15. Find the remainder of $\frac{288 \times 37 \times 35}{99}$

1. 3
2. 27
3. 8
4. 72



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Remainder Theorem-Type 6

When fraction can be simplified

Q 15. Find the remainder $\frac{288 \times 37 \times 35}{99}$

1. 3
2. 27
3. 8
4. 72



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Remainder Theorem-Type 7

Power Form

Q 16. Find the remainder $\frac{37^{120}}{9}$

1. 7
2. 8
3. 3
4. 1



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Remainder Theorem-Type 7

Power Form

Q 16. Find the remainder $\frac{37^{120}}{9}$

1. 7
2. 8
3. 3
4. 1



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Remainder Theorem-Type 7

Power Form

Q 17. Find the last two digits $\frac{80^{63}}{9}$

1. 7
2. 8
3. 3
4. 1



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Remainder Theorem-Type 7

Power Form

Q 17. Find the remainder $\frac{80^{63}}{9}$

1. 7
2. 8
3. 3
4. 1



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Remainder Theorem-Type 7

Power Management and Splitting

Q 18. Find the remainder $\frac{2^{63}}{9}$

1. 7
2. 8
3. 5
4. 1



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Remainder Theorem-Type 7

Power Form

Q 18. Find the remainder $\frac{2^{63}}{9}$

1. 7
2. 8
3. 5
4. 1



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Remainder Theorem-Type 7

Power Management and Splitting

Q 19. Find the remainder $\frac{2^{65}}{9}$

1. 4
2. 8
3. 5
4. 1



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Remainder Theorem-Type 7

Power Management and Splitting

Q 19. Find the remainder $\frac{2^{65}}{9}$

- 1. 4
- 2. 8
- 3. 5
- 4. 1



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Remainder Theorem-Type 7

Power Management and Splitting

Q 20. Find the remainder $\frac{5^{99}}{126}$

1. 5
2. 25
3. 125
4. 1



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Remainder Theorem-Type 7

Power Management and Splitting

Q 20. Find the remainder $\frac{5^{99}}{126}$

1. 5
2. 25
3. 125
4. 1



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Remainder Theorem-Type 7

Power Management and Splitting

Q 21. Find the remainder $\frac{2^{76}}{96}$

1. 4
2. 16
3. 64
4. 1



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Remainder Theorem-Type 7

Power Management and Splitting

Q 21. Find the remainder $\frac{2^{76}}{96}$

- 1. 4
- 2. 16
- 3. 64
- 4. 1



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Remainder Theorem-Type 7

Power Management and Splitting

Q 22. Find the remainder $\frac{5^{500}}{500}$

1. 5
2. 25
3. 125
4. 1



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Remainder Theorem-Type 7

Power Management and Splitting

Q 22. Find the remainder $\frac{5^{500}}{500}$

1. 5
2. 25
3. 125
4. 1



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Remainder Theorem-Type 8

Fermates Theorem

Q 23. Find the remainder $\frac{2^{72}}{73}$

1. 2
2. 4
3. 8
4. 1



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Remainder Theorem-Type 8

Fermates Theorem

Q 23. Find the remainder $\frac{2^{72}}{73}$

1. 2
2. 4
3. 8
4. 1



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Remainder Theorem-Type 8

Fermates Theorem

Q 24. Find the remainder $\frac{2^{100}}{101}$

1. 1
2. 4
3. 2
4. 8



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Remainder Theorem-Type 8

Fermates Theorem

Q 24. Find the remainder $\frac{2^{100}}{101}$

1. 1
2. 4
3. 2
4. 8



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Remainder Theorem-Type 8

Fermates Theorem

Q 25. Find the remainder $\frac{2^{106}}{53}$

1. 2
2. 4
3. 1
4. 8



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Remainder Theorem-Type 8

Fermates Theorem

Q 25. Find the remainder $\frac{2^{106}}{53}$

- 1. 2
- 2. 4
- 3. 1
- 4. 8



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Remainder Theorem-Type 8

Fermates Theorem

Q 26. Find the remainder $\frac{5^{91}}{31}$

1. 5
2. 6
3. 1
4. 25



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Remainder Theorem-Type 8

Fermates Theorem

Q 26. Find the remainder $\frac{5^{91}}{31}$

1. 5
2. 6
3. 1
4. 25



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Remainder Theorem-Type 8

Wilson's Theorem

Q 27. Find the remainder $\frac{4!}{5}$

1. 0
2. 4
3. 1
4. 2



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Remainder Theorem-Type 8

Wilson's Theorem

Q 27. Find the remainder $\frac{4!}{5}$

- 1. 0
- 2. 4
- 3. 1
- 4. 2



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Remainder Theorem-Type 8

Wilson's Theorem

Q 28. Find the remainder $\frac{28!}{29}$

1. 0
2. 14
3. 1
4. 28



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Remainder Theorem-Type 8

Wilson's Theorem

Q 28. Find the remainder $\frac{28!}{29}$

1. 0
2. 14
3. 1
4. 28



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Remainder Theorem-Type 8

Cyclicity Theorem

Q 29. Find the remainder $\frac{37^{100}}{7}$

1. 0
2. 2
3. 1
4. 3



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Remainder Theorem-Type 8

Cyclicity Theorem

Q 29. Find the remainder $\frac{37^{100}}{7}$

- 1. 0
- 2. 2
- 3. 1
- 4. 3



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Remainder Theorem-Type 8

Cyclicity Theorem

Q 30. Find the remainder $\frac{11^{77}}{7}$

1. 0
2. 4
3. 1
4. 2



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Remainder Theorem-Type 8

Cyclicity Theorem

Q 30. Find the remainder $\frac{11^{77}}{7}$

- 1. 0
- 2. 4
- 3. 1
- 4. 2



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Remainder Theorem-Type 8

Cyclicity Theorem

Q 31. Find the remainder $\frac{143^{321}}{5}$

1. 3
2. 4
3. 1
4. 2



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Remainder Theorem-Type 8

Cyclicity Theorem

Q 31. Find the remainder $\frac{143^{321}}{5}$

1. 3
2. 4
3. 1
4. 2



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Remainder Theorem-Type 8

Cyclicity Theorem

Q 32. Find the remainder $\frac{18^{22^{42}}}{9}$

- 1. 3
- 2. 0
- 3. 1
- 4. 2



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Remainder Theorem-Type 8

Cyclicity Theorem

Q 32. Find the remainder $\frac{18^{22^{42}}}{9}$

- 1. 3
- 2. 0
- 3. 1
- 4. 2



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Remainder Theorem-Type 8

Cyclicity Theorem

Q 33. Find the remainder $\frac{35^{23^{23}}}{16}$

1. 3
2. 4
3. 11
4. 2



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Remainder Theorem-Type 8

Cyclicity Theorem

Q 33. Find the remainder $\frac{35^{23^{23}}}{16}$

- 1. 3
- 2. 4
- 3. 11
- 4. 2



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Remainder Theorem-Type 8

Cyclicity Theorem

Q 34. Find the remainder $\frac{29^{67^{23}}}{25}$

1. 13
2. 14
3. 11
4. 12



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Remainder Theorem-Type 8

Cyclicity Theorem

Q 34. Find the remainder $\frac{29^{67^{23}}}{25}$

1. 13
2. 14
3. 11
4. 12

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Remainder Theorem-Type 9

Next Power Concept

Q 35. Find the remainder $\frac{10^1+10^2+10^3+10^4+\dots\dots\dots+10^{100}}{6}$

- 1. 3
- 2. 4
- 3. 1
- 4. 2

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Remainder Theorem-Type 9

Next Power Concept

Q 35. Find the remainder $\frac{10^1+10^2+10^3+10^4+\dots\dots\dots+10^{100}}{6}$

- 1. 3
- 2. 4
- 3. 1
- 4. 2

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Remainder Theorem-Type 9

Next Power Concept

Q 36. Find the remainder $\frac{67^{54} + 32^{79}}{11}$

- 1. 3
- 2. 4
- 3. 0
- 4. 2



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Remainder Theorem-Type 9

Next Power Concept

Q 36. Find the remainder $\frac{67^{54} + 32^{79}}{11}$

- 1. 3
- 2. 4
- 3. 0
- 4. 2



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Remainder Theorem-Type 9

Next Power Concept

Q 37. Find the remainder $\frac{29^{11}+17^{11}}{23}$

- 1. 3
- 2. 4
- 3. 0
- 4. 2



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Remainder Theorem-Type 9

Next Power Concept

Q 37. Find the remainder $\frac{29^{11}+17^{11}}{23}$

- 1. 3
- 2. 4
- 3. 0
- 4. 2



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Remainder Theorem-Type 10

Algebraic Remainder Theorem

Q 38. Find the remainder $\frac{x^3+5x^2+7}{x-2}$

- 1. 76
- 2. 4
- 3. 0
- 4. 35



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Remainder Theorem-Type 10

Algebraic Remainder Theorem

Q 38. Find the remainder $\frac{x^3+5x^2+7}{x-2}$

- 1. 76
- 2. 4
- 3. 0
- 4. 35



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Remainder Theorem-Type 10

Algebraic Remainder Theorem

Q 39. Find the remainder $\frac{x^2+7x+15}{x-3}$

- 1. 6
- 2. 3
- 3. 0
- 4. 45



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Remainder Theorem-Type 10

Algebraic Remainder Theorem

Q 39. Find the remainder $\frac{x^2+7x+15}{x-3}$

- 1. 6
- 2. 3
- 3. 0
- 4. 45



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Remainder Theorem-Type 10

Algebraic Remainder Theorem

Q 40. Find the remainder $\frac{x^{51}+16}{x+1}$

- 1. 6
- 2. 3
- 3. 0
- 4. 15



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Remainder Theorem-Type 10

Algebraic Remainder Theorem

Q 40. Find the remainder $\frac{x^{51}+16}{x+1}$

- 1. 6
- 2. 3
- 3. 0
- 4. 15



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Remainder Theorem-Type 11

Q 41 . What will be the remainder when 17^{200} is divided by 18?

- (a) 17
- (b) 16
- (c) 1
- (d) 2

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Remainder Theorem-Type 11

Q 41 . What will be the remainder when 17^{200} is divided by 18?

(a) 17

(b) 16

(c) 1

(d) 2

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Remainder Theorem-Type 11

Q 42. Find the remainder when 3^{85} is divided by 6.

- (a) 3
- (b) 16
- (c) 1
- (d) 2

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Remainder Theorem-Type 11

Q 42. Find the remainder when 3^{85} is divided by 6.

- (a) **3**
- (b) 16
- (c) 1
- (d) 2

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Remainder Theorem-Type 11

Q 43. Find the remainder when 2^{70} is divided by 96.

- (a) 64
- (b) 63
- (c) 1
- (d) 2

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Remainder Theorem-Type 11

Q 43. Find the remainder when 2^{70} is divided by 96.

- (a) **64**
- (b) 63
- (c) 1
- (d) 2

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Remainder Theorem-Type 11

Q 44. What will be the remainder when $(67^{67} + 67)$ is divided by 68?

- (a) 1
- (b) 66
- (c) 67
- (d) 60

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Remainder Theorem-Type 11

Q 44. What will be the remainder when $(67^{67} + 67)$ is divided by 68?

- (a) 1
- (b) 66**
- (c) 67
- (d) 60

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Remainder Theorem-Type 11

Q 45. A number when divided by 6 leaves a remainder of 3. When the square of the number is divided by 6, the remainder is:

- (a) 0
- (b) 1
- (c) 3
- (d) 2

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Remainder Theorem-Type 11

Q 45. A number when divided by 6 leaves a remainder of 3. When the square of the number is divided by 6, the remainder is:

- (a) 0
- (b) 1
- (c) 3**
- (d) 2

Remainder Theorem-Type 11

Q 46. A number when divided successively by 4 and 5 leaves remainders 1 and 4 respectively. When it is successively divided by 5 and 4, then the respective remainders will be :

- (a) 1, 2
- (b) 2, 3
- (c) 3, 2
- (d) 4, 1

Remainder Theorem-Type 11

Q 46. A number when divided successively by 4 and 5 leaves remainders 1 and 4 respectively. When it is successively divided by 5 and 4, then the respective remainders will be :

(a) 1, 2

(b) 2, 3

(c) 3, 2

(d) 4, 1

Remainder Theorem-Type 11

Q 47. A number was divided successively in order by 4, 5, and 6. The remainder were respectively 2, 3, and 4. The number is :

- (a) 214
- (b) 476
- (c) 954
- (d) 1908

Remainder Theorem-Type 11

Q 47. A number was divided successively in order by 4, 5, and 6. The remainder were respectively 2, 3, and 4. The number is :

- (a) **214**
- (b) 476
- (c) 954
- (d) 1908

THANK YOU



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