

Year 7 Class 19 questions

Q1

Complete the table using the rule:

$$K = 4L$$

L	-10	-5	2	3
K	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

-40 -20 8 12

Q2

Complete the table using the rule:

$$y = x^2$$

x	1	2	3	6	8
y	1	4	<input type="text"/>	36	<input type="text"/>

9 64

Q3

Consider the table of values below.

Input(x)	1	2	3	4	5
Output(y)	-1	0	1	2	3

Output is

- Input - 2 Input \times (-1)
 Input \div 3 Input - 1

y =

- x $x \div 2$ $x - 2$ $x + 2$

Q4

Use the rule $y = 7x + 3$ to complete the table.

x	0	1	2	5
y	3	<input type="text"/>	17	<input type="text"/>

x	0	1	2	5
y	3	10	17	38

Q5

Choose the rule for this table.

a	1	2	3	4	5
y	4	16	36	64	100

- $y = 4a$
 $y = 4a^2$
 $y = 2a + 2$
 $y = a^2 + 3$

Q6

Complete the table using the rule:

$$y = 12 - x$$

x	1	2	3	4	10
y	<input type="text"/>				

11 10 9 8 2

Q7

Complete the table using the rule:

$$g = 5 - 2h$$

h	0	1	2	3	5
g	<input type="text"/>				

5 3 1 -1 -5

Q8

Complete the table using the rule:

$$y = a^2 - 2$$

a	2	3	5	8	9
y	2	7	<input type="text"/>	62	<input type="text"/>

23 79

Q9

Complete the table using the rule:

$$y = 2 \times x^2$$

x	1	2	3	5	7
y	<input type="text"/>	8	18	<input type="text"/>	98

2 50

Q10

Consider the table of values below.

Input(x)	1	2	3	4	5
Output(y)	4	3	2	1	0

Output is

- $5 - \text{Input}$ $\text{Input} - 5$
 $5 + \text{Input}$ $5 \times \text{Input}$

y =

- $x + 5$ $5 - x$ $5x$ $x - 5$

Q11

Position(n)	1	2	3	4	5
Term(T)	4	8	<input type="text"/>	16	20

What is the third term? 12

Are the terms increasing or decreasing, and by how much each term?

- decreasing by 3
 increasing by 4
 decreasing by 1
 increasing by 5

Which rule describes this pattern?

- $T = 4n$ $T = 5n$
 $T = n - 4$ $T = 1 \div n$

What is the 10th term? 40

Q12

Choose the rule for this table.

x	0	1	2	3	4
y	1	3	5	7	9

- $y = x + 2$
 $y = 2x + 1$
 $y = 2x - 1$
 $y = (2x + 1)^2$

Q13

Choose the rule for this table.

x	0	1	2	3	4
y	10	8	6	4	2

- $y = -2x + 10$
 $y = 5x + 3$
 $y = 3x$
 $y = x + 10$

Q14

Choose the rule for this table.

a	1	2	3	4	5
y	4	9	16	25	36

- $y = a^2 + 3$
 $y = (a - 1)^2$
 $y = (a + 1)^2$
 $y = 4a$

Q15

Choose the rule for this table.

x	1	2	3	6
y	9	16	25	64

$y = (x+2)^2$

$y = 5x+4$

$y = 9x^2$

$y = x+8$

Q16

Complete the table using the rule:

$$y = (x+4) \times (x-3)$$

x	2	3	4	5	6
y	<input type="text"/>				

-6 0 8 18 30

Q17

Complete the table using the rule:

$$t = 18s - 7$$

s	0	0.5	1	1.5
t	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

-7 2 11 20

Q18

Complete the table using the rule:

$$y = \frac{x}{2} + 3$$

x	2	4	8	12	18
y	<input type="text"/>				

4 5 7 9 12

Q19

Complete the table using the rule:

$$y = x \times (x - 2)$$

x	2	3	4	5	10
y	0	3	<input type="text"/>	15	<input type="text"/>

8 80

Q20

Complete the table using the rule:

$$y = x^2 \div 2$$

x	2	4	6	8	10
y	2	8	<input type="text"/>	<input type="text"/>	50

18 32

Q21

Complete the table using the rule:

$$y = x^2 \div 3$$

x	0	3	6	9	12
y	0	<input type="text"/>	<input type="text"/>	27	48

3 12

Q22

Position(n)	1	2	3	4	5
Term(T)	4	1	<input type="text"/>	-5	-8

What is the third term? -2

Are the terms increasing or decreasing, and by how much each term?

 increasing by 2 decreasing by 1 decreasing by 3 increasing by 5

Which rule describes this pattern?

 $T = 3n - 7$ $T = 7 - 3n$ $T = 7 + 3n$ $T = 7n - 3$ What is the 10th term? -23

Q23

Position(n)	1	2	3	4	5
Term(T)	12	8	4		-4

What is the fourth term? 0

Are the terms increasing or decreasing, and by how much each term?

increasing by 5

decreasing by 4

increasing by 1

decreasing by 3

Which rule describes this pattern?

$T = 4n \div 16$ $T = 16 - 4n$

$T = 4 + 8n$ $T = 4n + 16$

What is the 10th term? -24

Q24

Position(n)	1	2	3	4	5
Term(T)	2		6	8	10

What is the second term? 4

Are the terms increasing or decreasing, and by how much each term?

increasing by 4

decreasing by 2

increasing by 1

increasing by 2

Which rule describes this pattern?

$T = n - 1$ $T = 2n$

$T = n \div 1$ $T = n + 1$

What is the 9th term? 18

Q25

Choose the rule for this table.

x	0	1	4	7
y	7	4	-5	-14

$y = 7x$

$y = 5 - x$

$y = 3x - 7$

$y = 7 - 3x$

Q26

Use the rule $x - y = 5$ to complete the table.

x	1	2	3	4
y	-4	<input type="text"/>	<input type="text"/>	-1

x	1	2	3	4
y	-4	-3	-2	-1

Q27

Use the rule $x + 2y = 6$ to complete the table.

x	0	2	4	6
y	3	<input type="text"/>	<input type="text"/>	0

x	0	2	4	6
y	3	2	1	0

Q28

Choose the rule for this table.

x	1	2	3	4	5
y	2	6	12	20	30

$y = x \times (x + 2)$

$y = x^2 + 1$

$y = 2x$

$y = x \times (x + 1)$

Q29

Choose the rule for this table.

x	1	2	3	4	5
y	4	9	16	25	36

- $y = x \times (x+3)$
- $y = 4x^2$
- $y = x^2$
- $y = (x+1) \times (x+1)$

Q30

Choose the rule for this table.

x	0	1	2	3
y	4	9	16	25

- $y = (x+2)^2$
- $y = x^2 + 4$
- $y = 5x + 4$
- $y = \sqrt{x} - 2$