

ONLINE MATHS CLASS - X - 06 (29 / 06 /2021)

1. ARITHMETIC SEQUENCE - CLASS 4

WORKSHEET

1. Fill in the blanks ..

- a) By adding ___ times the common difference to the first term of an arithmetic sequence , we get the 12th term .
- b) By adding ___ times the common difference to the first term of an arithmetic sequence , we get the 20th term .
- c) By adding ___ times the common difference to the fifth term of an arithmetic sequence , we get the 13th term .
- d) By adding ___ times the common difference to the eighth term of an arithmetic sequence , we get the 30th term .
- e) By subtracting ___ times the common difference from the 10th term of an arithmetic sequence , we get the fourth term .
- f) By subtracting ___ times the common difference from the 19th term of an arithmetic sequence , we get the third term .

Answer

- a) By adding **11** times the common difference to the first term of an arithmetic sequence , we get the 12th term .
- b) By adding **19** times the common difference to the first term of an arithmetic sequence , we get the 20th term .
- c) By adding **8** times the common difference to the fifth term of an arithmetic sequence , we get the 13th term .

d) By adding 22 times the common difference to the eighth term of an arithmetic sequence , we get the 30th term .

e) By subtracting 6 times the common difference from the 10th term of an arithmetic sequence , we get the fourth term .

f) By subtracting 16 times the common difference from the 19th term of an arithmetic sequence , we get the third term .

2. First two terms of some arithmetic sequences are given in the table . Complete the table

x_1	x_2	Common difference	x_5	x_{10}	x_{20}
5	8				
2	6				
7	12				
10	20				
20	40				

Answer

x_1	x_2	Common difference	x_5	x_{10}	x_{20}
5	8	$8 - 5 = 3$	$5 + 4 \times 3$ $= 5 + 12$ $= 17$	$5 + 9 \times 3$ $= 5 + 27$ $= 32$	$5 + 19 \times 3$ $= 5 + 57$ $= 62$
2	6	$6 - 2 = 4$	$2 + 4 \times 4$ $= 2 + 16$ $= 18$	$2 + 9 \times 4$ $= 2 + 36$ $= 38$	$2 + 19 \times 4$ $= 2 + 76$ $= 78$
7	12	$12 - 7 = 5$	$7 + 4 \times 5$ $= 7 + 20$ $= 27$	$7 + 9 \times 5$ $= 7 + 45$ $= 52$	$7 + 19 \times 5$ $= 7 + 95$ $= 102$

10	20	$20 - 10 = 10$	$10 + 4 \times 10$ $= 10 + 40$ $= 50$	$10 + 9 \times 10$ $= 10 + 90$ $= 100$	$10 + 19 \times 10$ $= 10 + 190$ $= 200$
20	40	$40 - 20 = 20$	$20 + 4 \times 20$ $= 20 + 80$ $= 100$	$20 + 9 \times 20$ $= 20 + 180$ $= 200$	$20 + 19 \times 20$ $= 20 + 380$ $= 400$

3. Two terms of some arithmetic sequences are given in the table . Complete the table

Terms		Term difference	Position difference	Common difference
$x_3 = 7$	$x_8 = 17$	$17 - 7 = 10$	$8 - 3 = 5$	$\frac{17-7}{8-3} = \frac{10}{5} = 2$
$x_7 = 23$	$x_{10} = 32$			
$x_6 = 27$	$x_{12} = 51$			
$x_{10} = 49$	$x_{20} = 99$			
$x_{11} = 73$	$x_{31} = 213$			
$x_{10} = 5$	$x_5 = 10$			

Answer

Terms		Term difference	Position difference	Common difference
$x_3 = 7$	$x_8 = 17$	$17 - 7 = 10$	$8 - 3 = 5$	$\frac{17-7}{8-3} = \frac{10}{5} = 2$

$x_7 = 23$	$x_{10} = 32$	$32 - 23 = 9$	$10 - 7 = 3$	$\frac{32-23}{10-7} = \frac{9}{3} = 3$
$x_6 = 27$	$x_{12} = 51$	$51 - 27 = 24$	$12 - 6 = 6$	$\frac{51-27}{12-6} = \frac{24}{6} = 4$
$x_{10} = 49$	$x_{20} = 99$	$99 - 49 = 50$	$20 - 10 = 10$	$\frac{99-49}{20-10} = \frac{50}{10} = 5$
$x_{11} = 73$	$x_{31} = 213$	$213 - 73 = 140$	$31 - 11 = 20$	$\frac{213-73}{31-11} = \frac{140}{20} = 7$
$x_5 = 10$	$x_{10} = 5$	$5 - 10 = -5$	$10 - 5 = 5$	$\frac{5-10}{10-5} = \frac{-5}{5} = -1$