



1. Given  $t_n = 117$ ,  $a = 9$ ,  $n = 19$ , find  $S_n$   
(i) 1198 (ii) 1194 (iii) 1197 (iv) 1199 (v) 1196
2. If  $S_{50}$  and  $S_{90}$  of an A.P. are 10150 and 32670 respectively, then  $S_{140} =$   
(i) 78821 (ii) 78820 (iii) 78823 (iv) 78817
3. The  $t_{18}$  of an A.P. is  $\frac{75}{8}$  and the  $t_9$  is  $\frac{39}{8}$ . Find  $t_{19}$ .  
(i)  $\frac{77}{8}$  (ii)  $\frac{79}{10}$  (iii)  $\frac{81}{8}$  (iv)  $\frac{79}{8}$  (v)  $\frac{79}{6}$
4. Determine  $t_{13}$  of an A.P whose  $t_5$  is 15 and common difference is 2  
(i) 29 (ii) 31 (iii) 32 (iv) 30 (v) 33
5. The sum of first three terms of a G.P. is 93 and the sum of next three terms is 11625. Determine the G.P.  
(i) 5, 13, 75, 375, 1875, 9375, ... (ii) 3, 15, 75, 375, 1875, 9375, ... (iii) 6, 12, 75, 375, 1875, 9375, ...  
(iv) 0, 18, 75, 375, 1875, 9375, ... (v) 1, 17, 75, 375, 1875, 9375, ...
6. If the  $n$ th,  $(n+3)$ rd and  $(n+6)$ th term of a G.P. are  $p$ ,  $q$  and  $s$  respectively, then which of the following are true?  
a)  $pqs = 1$   
b)  $p^2 = qs$   
c)  $s^2 = pq$   
d)  $q^2 = ps$   
(i)  $\{b, d\}$  (ii)  $\{d\}$  (iii)  $\{a, d\}$  (iv)  $\{c, a, d\}$
7. The product of two numbers is 651 and their arithmetic mean is 26. Find the two numbers.  
(i) (21, 31) (ii) (24, 31) (iii) (21, 30) (iv) (22, 32) (v) (33, 23)
8. Find the sum of the following A.P. series  
 $(2x+3y), (-2x+9y), (-6x+15y) \dots$  to 15 terms  
(i)  $(-340x+594y)$  (ii)  $(-332x+582y)$  (iii)  $(-390x+675y)$  (iv)  $(-412x+630y)$  (v)  $(-416x+624y)$
9. Find the sum of all natural numbers between 1 and 100 which are multiples of 9?  
(i) 593 (ii) 597 (iii) 592 (iv) 594 (v) 595

10. The sum of first three terms of a G.P. is  $\frac{91}{135}$  while their product is  $\frac{1}{3375}$ .

Find the G.P.

- (i)  $\frac{3}{5}, \frac{3}{35}, \frac{3}{245}, \dots$  (ii)  $\frac{3}{7}, \frac{1}{21}, \frac{1}{189}, \dots$  (iii)  $\frac{3}{5}, (\frac{-1}{15}), \frac{1}{135}, \dots$  (iv)  $1, \frac{1}{9}, \frac{1}{81}, \dots$  (v)  $\frac{3}{5}, \frac{1}{15}, \frac{1}{135}, \dots$

11. The sum of first three terms of a G.P. is 155 while their product is 15625 .  
Find the G.P.

- (i) 6,30,150,... (ii) 5,25,125,... (iii) 5,15,45,... (iv) 8,40,200,... (v) 5,20,80,...

12. The  $t_{13}$  of an A.P. is 53 and the  $t_{12}$  is 49 . Find  $t_{10}$ .

- (i) 42 (ii) 43 (iii) 41 (iv) 38 (v) 40

13. Which term of the G.P.  $2, 2\sqrt{2}, 4, \dots$  is 32 ?

- (i)  $t_8$  (ii)  $t_9$  (iii)  $t_{10}$  (iv)  $t_6$  (v)  $t_{11}$

14. Find the next 4 terms of the following A.P.

$(2a+b), (-8b), (-2a-17b), \dots$

- (i)  $(-16b), (-2a-25b), (-4a-34b), (-6a-43b)$  (ii)  $(-6a-35b), (-8a-44b), (-10a-53b), (-12a-62b)$   
(iii)  $(-2a-25b), (-4a-34b), (-6a-43b), (-8a-52b)$   
(iv)  $(-6a-27b), (-8a-36b), (-10a-45b), (-12a-54b)$   
(v)  $(-4a-26b), (-6a-35b), (-8a-44b), (-10a-53b)$

15. Given  $a = 6$ ,  $d = 3$ ,  $S_n = 81$ , find  $n$

- (i) 4 (ii) 7 (iii) 8 (iv) 5 (v) 6

16. The sum of first three terms of an A.P. is 18  
while their product is 66 . Find the A.P.

- (i) 4,9,14,... (ii) 1,3,5,... (iii) 2,7,12,... (iv) 1,6,11,... (v) 1,5,9,...

17. The  $t_7$  of a G.P. is 12288 and  $t_5$  is 768 . Find  $t_6$ .

- (i) 3073 (ii) 3072 (iii) 3071 (iv) 3075 (v) 3069

18. The  $t_8$  of the G.P.  $4, 20, 100, \dots =$

- (i) 312499 (ii) 312497 (iii) 312501 (iv) 312503 (v) 312500

19. The first term of the G.P.  $3, 15, 75, 375, 1875, \dots =$

- (i) 3 (ii) 1875 (iii) 75 (iv) 375 (v) 15

20. The sum of first three terms of an A.P. is  $\frac{38}{5}$   
while their product is  $\frac{10906}{675}$  . Find the A.P.

- (i)  $\frac{7}{3}, \frac{32}{15}, \frac{29}{15}, \dots$  (ii)  $3, \frac{16}{5}, \frac{17}{5}, \dots$  (iii)  $\frac{7}{3}, \frac{8}{3}, 3, \dots$  (iv)  $\frac{7}{5}, \frac{8}{5}, \frac{9}{5}, \dots$  (v)  $\frac{7}{3}, \frac{38}{15}, \frac{41}{15}, \dots$

21. The common difference of the A.P.  $\frac{5}{6}, \frac{4}{3}, \frac{11}{6}, \dots =$

- (i)  $\frac{3}{2}$  (ii)  $(-\frac{1}{2})$  (iii)  $\frac{1}{2}$  (iv) 1 (v)  $\frac{1}{4}$

22. How many terms of the A.P.  $\frac{3}{4}, 1, \frac{5}{4}, \dots$  are needed to make the sum  $\frac{33}{4}$  ?

- (i) 7 (ii) 5 (iii) 8 (iv) 6 (v) 3

23. Determine k so that  $(2k+9), (3k+6)$  and  $(k+6)$  are the consecutive terms of an A.P

- (i) 2 (ii) 3 (iii) 1 (iv) 0 (v) -2

24. Find  $t_n$  of the A.P  $4, 5, 6, 7, 8, \dots$

- (i)  $(n+3)$  (ii)  $(n+4)$  (iii)  $(-3n+3)$  (iv)  $(n+7)$  (v)  $(2n+3)$

The measures of the interior angles of a convex polygon are in A.P.

25. If the smallest angle is  $125^\circ$  and the largest angle is  $163^\circ$ , then the number of sides of the polygon is

- (i) 10 (ii) 13 (iii) 8 (iv) 9 (v) 11

## Assignment Key

|          |          |           |          |           |           |
|----------|----------|-----------|----------|-----------|-----------|
| 1) (iii) | 2) (ii)  | 3) (iv)   | 4) (ii)  | 5) (ii)   | 6) (ii)   |
| 7) (i)   | 8) (iii) | 9) (iv)   | 10) (v)  | 11) (ii)  | 12) (iii) |
| 13) (ii) | 14) (v)  | 15) (v)   | 16) (iv) | 17) (ii)  | 18) (v)   |
| 19) (i)  | 20) (v)  | 21) (iii) | 22) (iv) | 23) (iii) | 24) (i)   |
| 25) (i)  |          |           |          |           |           |