Geometric Series SOLUTIONS

1. i. $T_n = 3(2)^{n-1}$
   ii. $72(\frac{1}{2})^{n-1}$
   iii. $18(-\frac{1}{3})^{n-1}$
2. 11 terms
3. i. $T_n = 3(4)^{n-1}$
   ii. $T_n = \frac{27}{2}(\frac{1}{3})^{n-1}$
4. $x = 9$, $x = -1$
5. i. $3^n - 1$
   ii. $32(1 - \frac{1}{4}^n)$
   iii. $\frac{1}{3}[1 - (-2)^n]$
6. First term =18; Common ratio = $\frac{1}{3}$ OR First term = 2; Common ratio =3
7. $p = 24$, $q = 36$ OR $p = 8$, $q = 4$
8. $T_n = 4(5)^{n-1}$
9. $a = 3$, $r = 2$
10. i. $A = 50(0.8)^t$
    ii. 25.6 mg
    iii. $t = 6$ hours
    iv. 168 mg
    v. 7 hours (8th dose).
11. i. $P = 40(1.02)^t$
    ii. $ 72.45
    iii. $ 2173.5
    iv. $ 550.78