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Answers Key:

Multiple Choice Question

1. (c) $0 \leq r < b$
2. (a) 0, 1, 8
3. (c) 3
4. (i) To check if h is one – one, we assume that $h(b_1) = h(b_2)$
   Then we get $2.47\ b_1 + 54.10 = 2.47\ b_2 + 54.10$
   $2.47b_1 = 2.47b_2 \Rightarrow b_1 = b_2$
   Thus, $h(b_1) = h(b_2) \Rightarrow b_1 = b_2$, So, the function h is one – one.
   (ii) If the length of the thigh bone b = 50, then the height is
   h(50) = (2.47 x 50) + 54.10 = 177.6 cms
   (iii) If the height of a person is 147.96 cms, then h(b) = 147.96 and so the length of the thigh bone is given by 2.47b + 54.10 = 147.96.
   $b = \frac{93.86}{2.47}$
   Therefore, the length of the thigh bone is 38 cms.
5. (c) 8
6. (i) To check if h is one – one, we assume that $h(b_1) = h(b_2)$
   Then we get $2.47b_1 + 54.10 = 2.47\ b_2 + 54.10$
   $2.47b_1 = 2.47b_2 \Rightarrow b_1 = b_2$
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   (ii) If the length of the thigh bone b = 50, then the height is
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   $b = \frac{93.86}{2.47}$
   Therefore, the length of the thigh bone is 38 cms.
7. (b) $\frac{1}{27}$
8. (b) an Arithmetic Progression
9. (d) $-\frac{1}{120}$
10. (c) 4
11. (d) $\frac{5000}{k} + 50$
12. (a) 0
13. (a) $\frac{8}{27}$
14. (c) 32 cm^2
15. (c) $2^{20} - 1$
16. (c) $n^2 - a$
17. (b) an A.P
18. (a) p+q-n
19. (c) $\frac{n(n+1)}{\sqrt{2}}$
20. (a) k
21. (a) HCF
22. (d) All of these
23. (b) 455 = 42 x 10 + 35
24. (b) $132 = 2^2 \times 3 \times 11$
25. (d) 10
26. (a) 2
27. (b) 1
28. (c) 7, 3
29. (b) $\frac{b-a}{n-1}$
30. (c) - b
31. (d) 1
32. (b) 27^{th}
33. (c) $\frac{3ab}{2(b-a)}$
34. (c) 1458
35. (d) 0
36. (d) both A.P and G.P
37. (b) $\frac{a(1-r^n)}{1-r}$
38. (b) - 1094
39. (b) 7

40. (c) n^2
41. (a) 55^2
42. (d) $\frac{n(n+1)(2n+1)}{6}$
43. (b) 9
44. (c) Both the statements are true
45. (b) -1/3
46. (d) (7nd)
47. (c) 35
48. (b) xy^2
49. (c) 7
50. (c) Assertion (A) is true but reason (R) is false.

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