

p.181

11 b. $x = 0.811$ d. $x = -5.213$ f. $x = 1.701$

g. $x = 1.461$ h. $x = 1.113$

12 a. $x = 2$ b. $x = 25$ c. $x = 2$

d. $x = 16$ f. $x = 729/64$ h. $x = 2$

14 a. 1.796

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19 a. $y = 10(0.8)^{x/2}$ b. 6.8 units c. 7.6 m

21. $t = 6.07$ h

25 a. $x = 5$ c. $x = 0.404$ d. $x = 1/7, 343$

e. $x = \pm 3$ f. $x = 5$ g. $x = 17/14$

h. $x = 0.480$ i. $x = 3$

30. $t = 1.96$ days

32. It would be safe to swim between 2.5 days (60 hours) and 6.76 days (162 hours) after the pool was shocked.

Final Jeopardy: 53 years old

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33 a. $\log_9 27 = 3/2$ b. $\log_4 (1/64) = -3$

34 a. $5^3 = 125$ b. $2^{-3} = 1/8$ c. $10^2 = 100$

35 a. -2 b. 2 c. $1/3$

d. 3 e. 4 f. 8

36 a. 2.09 b. 5 c. 48 d. 2

e. 3.24 f. 3 g. 1.56 h. 37.5

37 a. $A = A_0(0.96)^x$ b. 31 strokes

38. $t = 10.4$ years

39. $t = 84.2$ years

40 a. $x = 1$ or $x = 81$ b. $x = 0.82$ (approx.) c. $x = 4$ or $x = 8$

f. $x = 9$ g. $x = -1.24$ (approx.) h. $x = 3.15$ (approx.)

42. $t =$ approx. 7.8 years after the population was 3000 frogs
(or 3.1 years after the population was 3000 frogs)

* answer depends on your interpretation of the question -
the wording is a little confusing...

43. $t =$ approx. 12 years