

1.

$$f(n) = f(n/2) + 2$$

$$f(1) = 2$$

$$f(2) = f(2/2) + 2 = 2 + 2 = 4$$

$$f(4) = f(4/2) + 2 = 4 + 2 = 6$$

$$f(8) = f(8/2) + 2 = 6 + 2 = 8$$

$$f(16) = f(16/2) + 2 = 8 + 2 = 10$$

$$f(32) = f(32/2) + 2 = 10 + 2 = 12$$

$$f(64) = f(64/2) + 2 = 12 + 2 = 14$$

7.

$$a) f(3) = f(1) + 1 = 1 + 1 = 2$$

b)

$$f(9) = f(3) + 1 = 2 + 1 = 3$$

$$f(27) = f(9) + 1 = 3 + 1 = 4$$

c)

$$f(81) = f(27) + 1 = 4 + 1 = 5$$

$$f(243) = f(81) + 1 = 5 + 1 = 6$$

$$f(729) = f(243) + 1 = 6 + 1 = 7$$