Each of the following recurrence relations assumes the initial condition $T(1) = 1$, that is, the amount of work to solve a problem of size one is one operation.

$$T(n) = T(n-1) + 1 \qquad T(n) = n \tag{1}$$
$$T(n) = T(n-1) + \lg(n) \qquad T(n) = \lg(n!) + 1 \tag{2}$$
$$T(n) = T(n-1) + n \qquad T(n) = \frac{(n+1)n}{2} \tag{3}$$
$$T(n) = 2T(n-1) \qquad T(n) = 2^{(n-1)} \tag{4}$$
$$T(n) = 2T(n-1) + 1 \qquad T(n) = 2^n - 1 \tag{5}$$
$$T(n) = 2T(n-1) + n \qquad T(n) = 2^{n+1} - n - 2 \tag{6}$$
$$T(n) = T(n/2) \qquad T(n) = 1 \tag{7}$$
$$T(n) = T(n/2) + 1 \qquad T(n) = \lg(n) + 1 \tag{8}$$
$$T(n) = T(n/2) + \lg(n) \qquad T(n) = \lg(n)(\lg(n) + 1) \in \Theta(\lg^2(n)) \tag{9}$$
$$T(n) = T(n/2) + n \qquad T(n) = 2n - 1 \tag{10}$$
$$T(n) = 2T(n/2) \qquad T(n) = n \tag{11}$$
$$T(n) = 2T(n/2) + 1 \qquad T(n) = 2n - 1 \tag{12}$$
$$T(n) = 2T(n/2) + \lg(n) \qquad T(n) = 3n - 2 - \lg(n) \tag{13}$$
$$T(n) = 2T(n/2) + n \qquad T(n) = n\lg(n) + n = n(\lg(n) + 1) \tag{14}$$
$$T(n) = 2T(n/2) + n^2 \qquad T(n) = 2n^2 - n = n(2n - 1) \tag{15}$$
$$T(n) = 3T(n/2) \qquad T(n) = 3^{\lg(n)} = n^{\lg(3)} \tag{16}$$
$$T(n) = 3T(n/2) + 1 \qquad T(n) = (3n^{\lg(3)} - 1)/2 = (3^{\lg(2n)} - 1)/2 \tag{17}$$
$$T(n) = 3T(n/2) + n \qquad T(n) = 3n^{\lg(3)} - 2n = 3^{\lg(2n)} - 2n \tag{18}$$
$$T(n) = 3T(n/2) + n^{\lg(3)} \qquad T(n) \in \Theta(n^{\lg(3)}\lg(n)) \tag{19}$$
$$T(n) = 3T(n/2) + n^2 \qquad T(n) = 4n^2 - 3n^{\lg(3)} \in \Theta(n^2) \tag{20}$$
$$T(n) = 4T(n/2) \qquad T(n) = n^2 \tag{21}$$
$$T(n) = 4T(n/2) + n \qquad T(n) = 2n^2 - n \tag{22}$$
$$T(n) = 4T(n/2) + n^2 \qquad T(n) = n^2\lg(n) \tag{23}$$
$$T(n) = 4T(n/2) + n^3 \qquad T(n) \in \Theta(n^3) \tag{24}$$
$$T(n) = 9T(n/3) \qquad T(n) = n^2 \tag{25}$$
$$T(n) = 9T(n/3) + n^2 \qquad T(n) = n^2\log_3(n) + n^2 \in \Theta(n^2\lg(n)) \tag{26}$$
$$T(n) = 2T(n/4) \qquad T(n) = \sqrt{n} \tag{27}$$
$$T(n) = aT(n/b) \qquad T(n) = a^{\log_b(n)} = n^{\log_b(a)} \tag{28}$$