1.
    a.
        i. Total number of pages accessed = 2N = 2 * 20000 = 40000
        ii. Total number of seek/rotations = # of segments = 100
        iii. Total number of segments = N / B = 20000 / 200 = 100
    b.
        i. Total number of pages accessed = 2N = 2 * 20000 = 40000
        ii. Total number of seek rotations = 20000 / (100 / 2) = 400
        iii. Total number of segments = 100 / 2 = 50
    c.
        i. Total number of pages accessed = 2N = 2 * 20000 = 40000
        ii. Total number of seek rotations = 400
        iii. Total number of segments = 50 / 2 = 25
    d. Total iterations = ceiling($\log_2$(N/B)) = ceiling($\log_2$(100)) = 7 (not including initial)
    e. Time taken = 100 * seek/rotations + 1 * pages accessed
    Total seek/rotations = 100 + (400 * 7) = 100 + 2800 = 2900
    Total pages accessed = 40000 + (40000 * 7) = 40000 * 8 = 320000
    Total time = 100 * 2900 + 1 * 320000 = 290000 + 320000 = 610000
2.
    a. Time taken = 100 * seek/rotations + 1 * pages accessed
    Page accesses = ((A/50 * B/50 * 50) * (1 + 50)) + (AXB/50 * C/50 * 50 * 50) = 1,212,000,000
    Seek/rotates = (A/50 * (1 + B/50)) + (AXB/50 * C/50) = 480400
    100 * 480400 + 1 * 1,212,000,000 = 1,260,040,000 ms
    b. Time taken = Sorting A + 100 * seek/rotations + 1 * pages accessed
    Page accesses = A + B + C = 90000
    Seek/rotations = 90000 / 50 = 1800
    610000 + 100 * 1800 + 1 * 90000 = 880000
3.
    a. The schedule above is not serializable, because if T4 read Z after T1 had written to it, Z would end with a different answer because T4 is using old data in the original schedule

b.

Time	T1	T2	T3	T4
1			SLock(X) X3 = Read(X)	
2	Slock(Y) Y1 = Read(Y)			
3				Slock(Z) Z4 = Read(Z)
4		Slock(X) X2 = Read(X)		
5			X3 = X3 + 1	
6	Slock(Z) Z1 = Read(Z)			
7		X2 = X2 * 2		
8	Z1 = Z1 + Y1			
9	Xlock(Z) Wait			
10				Z4 = Z4 * 3
11			Y3 = Y3 - X3	
12			Xlock(X) Abort	
13		Slock(Y) Y2 = Read(Y)		
14		Y2 = Y2 + 4		
15		Xlock(Y) Abort		
16				Xlock(Z) Abort
17	Xlock(Z) Write(Z, Z1)			