Computer Organization and Design (4th) by Hennessy, Patterson Chapter 6.16, Problem 3E

step 1

a)

| IOPS | Bottleneck | IOPS | Bottleneck | IOPS | Bottleneck |
|-------|------------|---------|------------|---------|------------|
| 15625 | 7.0 | 41687.5 | NO | 82812.5 | 7.0 |

Step 2

b)

| IOPS | Bottleneck | IOPS | Bottleneck | IOPS | Bottleneck |
|-------|------------|-------|------------|--------|------------|
| 31250 | NO | 83375 | NO | 165625 | NO |

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Step 1

The assumptions made in approximating I/O performance are extensive. From the approximation of I/O commands generated by the executing system through sequential and random I/O events handled by disks, the approximations are extensive. By benchmarking in a full system, or executing actual application an engineer can see actual numbers that are far more accurate than approximate calculations.