Task 1: Analyze Performance Metrics

Defect Density

- Sprint 1: 3 defects ÷ 50 story points = 0.06 defects per story point
- Sprint 2: 5 defects ÷ 60 story points = 0.083 defects per story point
- Sprint 3: 2 defects ÷ 40 story points = 0.05 defects per story point

Average Cycle Time

- Sprint 1: (3 + 4 + 2) ÷ 3 = 3 days
- Sprint 2: (5 + 4 + 3) ÷ 3 = 4 days
- Sprint 3: (2 + 3 + 2.5) ÷ 3 = 2.5 days

Average Lead Time

- Sprint 1: (5 + 6 + 4) ÷ 3 = 5 days
- Sprint 2: (7 + 6 + 5) ÷ 3 = 6 days
- Sprint 3: (4 + 5 + 3) ÷ 3 = 4 days

Velocity Trends: Sprint 1 completed 50 story points, Sprint 2 completed 60 story points, and Sprint 3 completed 40 story points. This shows an increase from Sprint 1 to Sprint 2 followed by a drop in Sprint 3.

Work Item Age Trends: Average work item age was 2 days in Sprint 1, increased to 3 days in Sprint 2, and then improved to 1.5 days in Sprint 3.