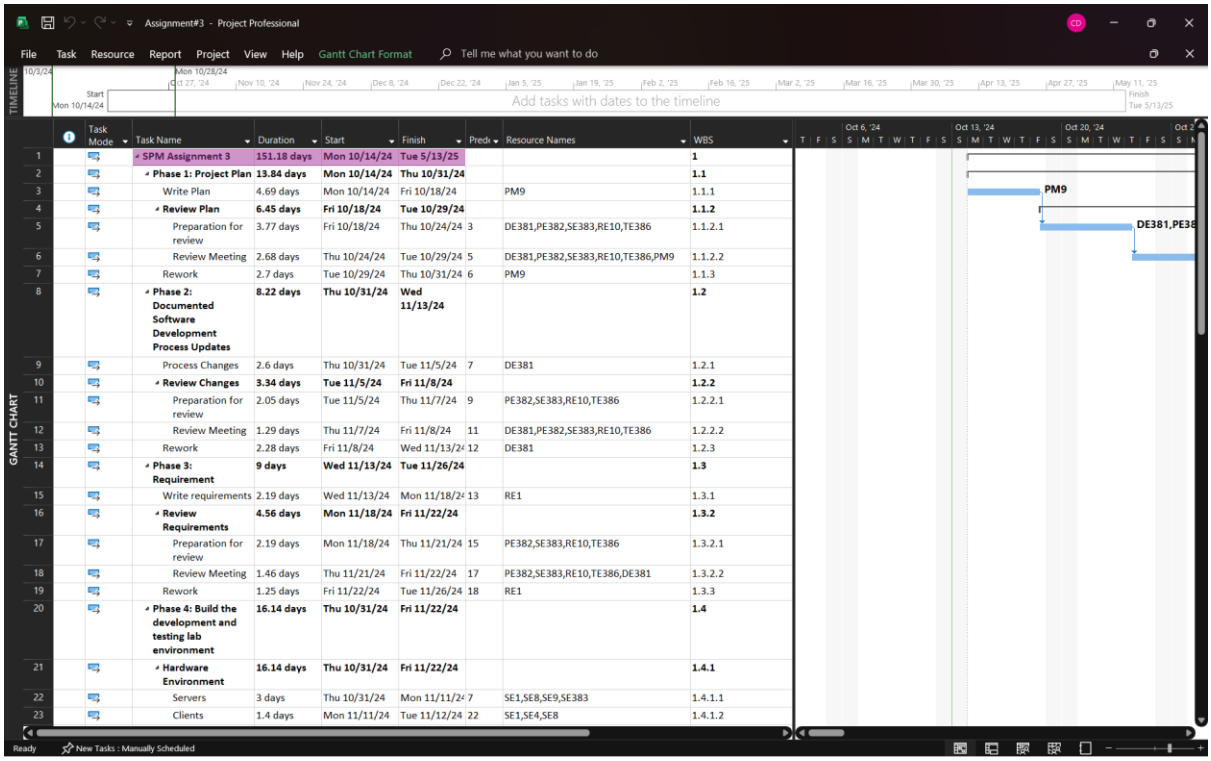
Chaitanya Durgesh Nynavarapu
A20561894

ASSIGNMENT - 3

7. What is the earliest finish date for this project if it is scheduled to start on 10/14/24?

- **5/13/25**



	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Names	WBS
1		**SPM Assignment 3**	**151.18 days**	**Mon 10/14/24**	**Tue 5/13/25**			**1**
2		**Phase 1: Project Plan**	**13.84 days**	**Mon 10/14/24**	**Thu 10/31/24**			**1.1**
3		Write Plan	4.69 days	Mon 10/14/24	Fri 10/18/24		PM9	1.1.1
4		**Review Plan**	**6.45 days**	**Fri 10/18/24**	**Tue 10/29/24**			**1.1.2**
5		Preparation for review	3.77 days	Fri 10/18/24	Thu 10/24/24	3	DE381,PE382,SE383,RE10,TE386	1.1.2.1
6		Review Meeting	2.68 days	Thu 10/24/24	Tue 10/29/24	5	DE381,PE382,SE383,RE10,TE386,PM9	1.1.2.2
7		Rework	2.7 days	Tue 10/29/24	Thu 10/31/24	6	PM9	1.1.3
8		**Phase 2: Documented Software Development Process Updates**	**8.22 days**	**Thu 10/31/24**	**Wed 11/13/24**			**1.2**
9		Process Changes	2.6 days	Thu 10/31/24	Tue 11/5/24	7	DE381	1.2.1
10		**Review Changes**	**3.34 days**	**Tue 11/5/24**	**Fri 11/8/24**			**1.2.2**
11		Preparation for review	2.05 days	Tue 11/5/24	Thu 11/7/24	9	PE382,SE383,RE10,TE386	1.2.2.1
12		Review Meeting	1.29 days	Thu 11/7/24	Fri 11/8/24	11	DE381,PE382,SE383,RE10,TE386	1.2.2.2
13		Rework	2.28 days	Fri 11/8/24	Wed 11/13/24	12	DE381	1.2.3
14		**Phase 3: Requirement**	**9 days**	**Wed 11/13/24**	**Tue 11/26/24**			**1.3**
15		Write requirements	2.19 days	Wed 11/13/24	Mon 11/18/24	13	RE1	1.3.1
16		**Review Requirements**	**4.56 days**	**Mon 11/18/24**	**Fri 11/22/24**			**1.3.2**
17		Preparation for review	2.19 days	Mon 11/18/24	Thu 11/21/24	15	PE382,SE383,RE10,TE386	1.3.2.1
18		Review Meeting	1.46 days	Thu 11/21/24	Fri 11/22/24	17	PE382,SE383,RE10,TE386,DE381	1.3.2.2
19		Rework	1.25 days	Fri 11/22/24	Tue 11/26/24	18	RE1	1.3.3
20		**Phase 4: Build the development and testing lab environment**	**16.14 days**	**Thu 10/31/24**	**Fri 11/22/24**			**1.4**
21		**Hardware Environment**	**16.14 days**	**Thu 10/31/24**	**Fri 11/22/24**			**1.4.1**
22		Servers	3 days	Thu 10/31/24	Mon 11/11/24	7	SE1,SE8,SE9,SE383	1.4.1.1
23		Clients	1.4 days	Mon 11/11/24	Tue 11/12/24	22	SE1,SE4,SE8	1.4.1.2

8. Can this project be completed 2 months after it starts? Explain why yes or no.

- No, it is not possible to complete the project in 2 months. Since the pool project is the one we have chosen to prioritize in the resource pool, resources will be assigned to it according to availability.
- **Project 1**
  - Start date: 9/16/24
  - Finish Date: 11/25/24
- **Project 2**
  - Start date: 9/23/24
  - Finish Date: 6/2/25
- **Project 3**
  - Start date: 10/14/24
  - Finish Date: 5/13/25

10. Submit your Comments regarding the start and completion dates and resources assignments for the three projects in a PDF document called Analysis.pdf.

1. Document and comment on the WBS

Work Breakdown Structure (WBS)

- **Project 1:**

  1.1- Project plan

  1.2 - Risk Mitigation and Contingency Plan

  1.3 - Requirements1.4- Analysis

  1.5 - Design

  1.6 - Coding and unit test

  1.7 - Testing

  1.8 - Documentation

- **Project 2:**

  1.1- Project plan

  1.2 - Requirements

  1.3 - Lab and Environment Setup

  1.4 - Analysis/Design Document

  1.5 - Data Model

  1.6 - Coding and unit test

  1.7 - Testing

  1.8 - Documentation

  1.9 - Training

- **Project 3:**

  1.1 - Project plan

  1.2 - Documented Software Development Process Updates

  1.3 - Requirement

  1.4 - Build the development and testing lab environment

  1.5 - Analysis

  1.6 - Design

  1.7 - Coding

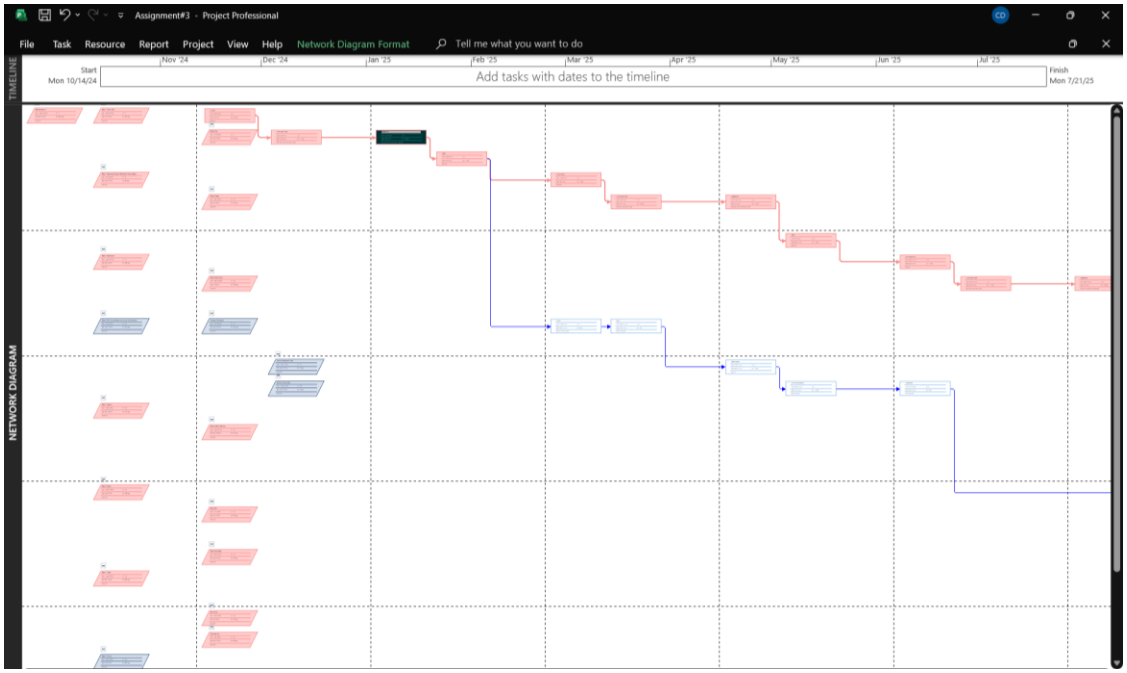
  1.8 - Testing

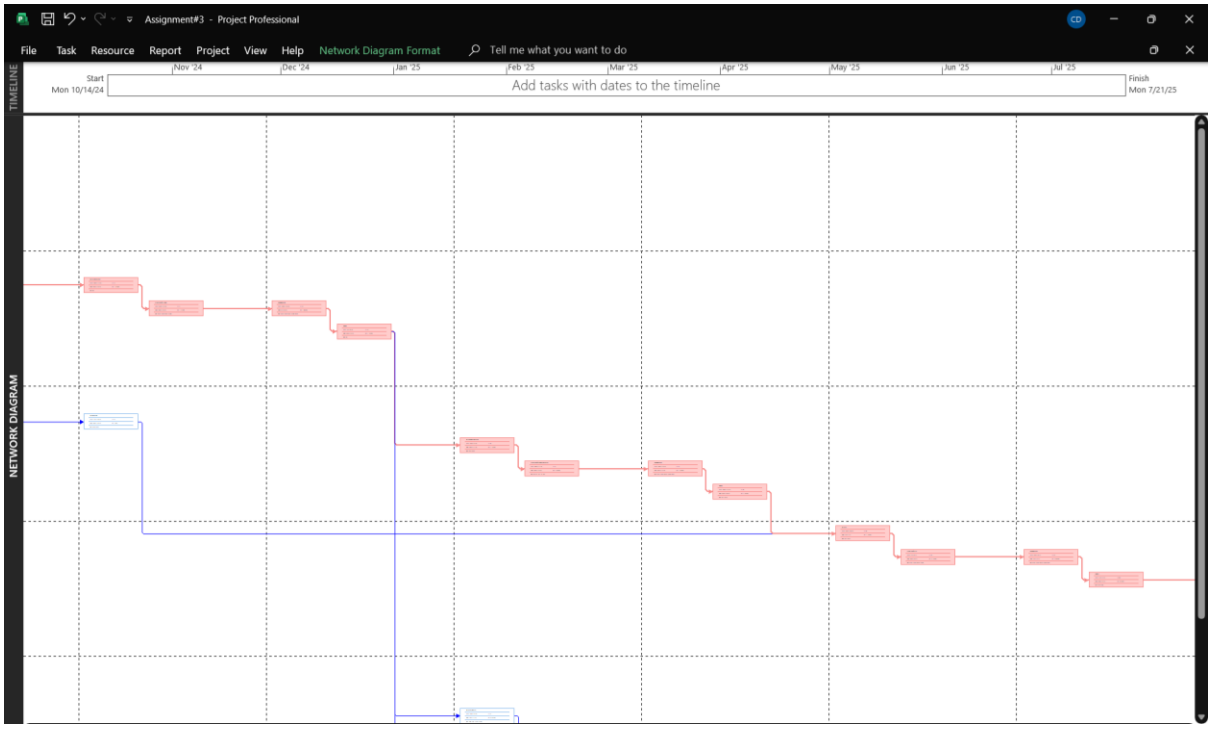
  1.9 – Documentation

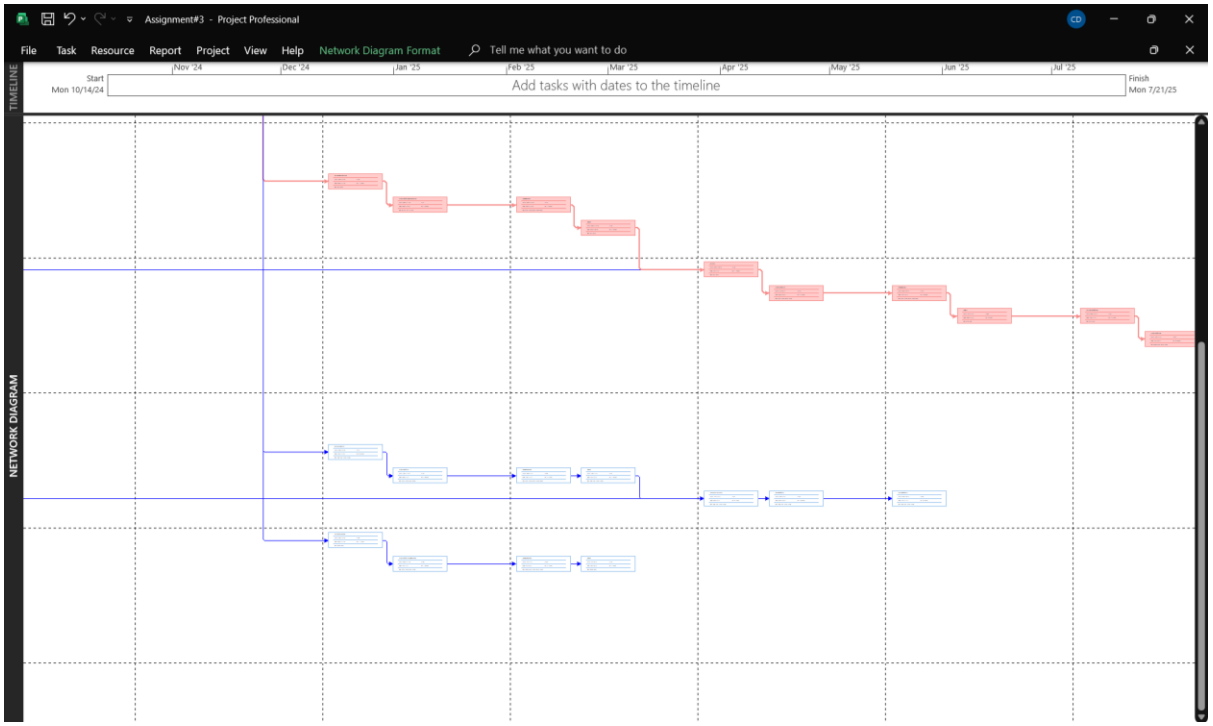
2. Document and comment on the Network Diagram

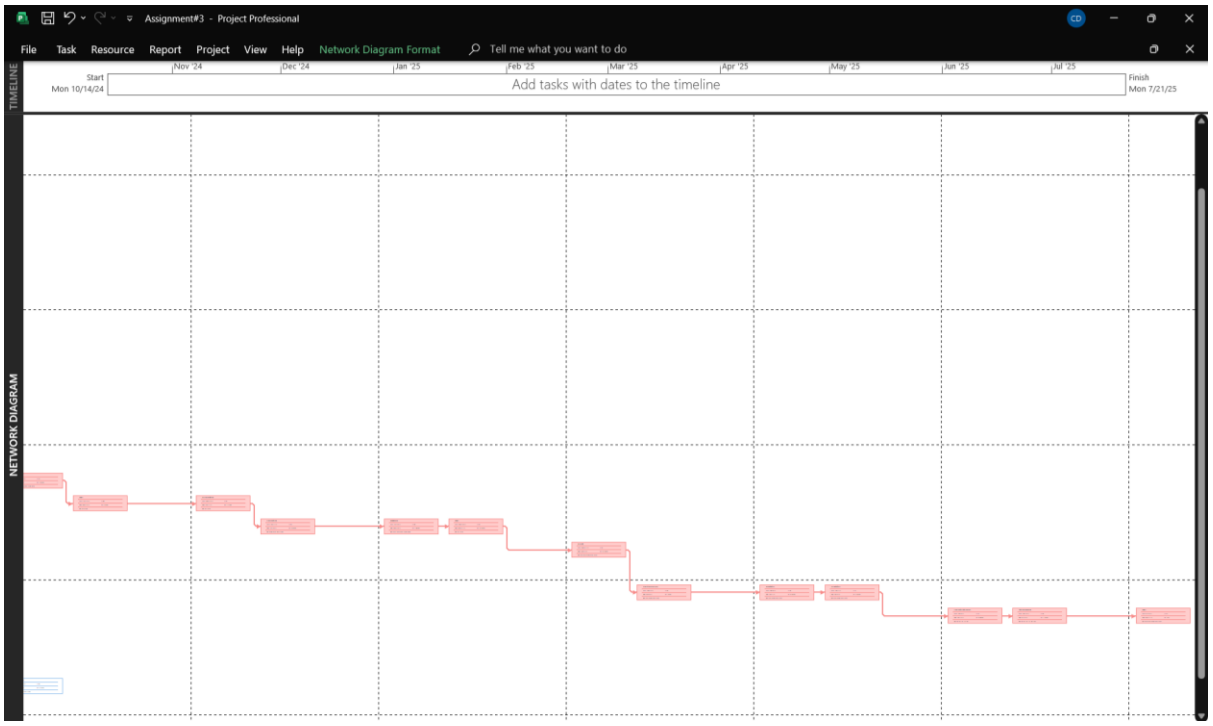
❖ Network Diagram

The network diagram, which shows the path with the longest duration, aids in our ability to identify the crucial path. It offers a clearer understanding of the workflow.









3. Document and comment on the resource pool utilization

- **Resource pool utilization**

  The same pool of resources is used by all three programmers. Assignments 1 and 2 now include the resources for assignment 3. Through three distinct initiatives, we are sharing the resource pool in the assignment. We avoid overallocation by using resources according to their availability.

4. Document the Baseline Estimation Calculations

⇒ Project Plan

write : $\frac{3+4}{2} = 3.5 \simeq 4$; $\frac{150}{4\times8} = \frac{4.6875}{1} \simeq 4.7$

prep $\frac{5+4}{2} = 4.5 \simeq 5$; $\frac{150}{5\times8} = 3.75$

review : $\frac{5+8}{2} = 6.5 \simeq 7$; $\frac{150}{7\times8} = 2.68$

rework : $\frac{4+6}{2} = 5$; $\frac{108}{5\times8} = \frac{2.7}{1} = 2.7$

Amt. of work:

P1 : $\frac{22\times1000}{31} = 709.6 \simeq \frac{710}{2}$ ⇒ $\frac{710+734}{2} = 722 \Rightarrow 722\times0.15$

P2 : $\frac{99\times1000}{135} = 733.3 \simeq 734$ $= 108$

⇒ Software Dev

procu : $\frac{82}{4\times8} = \frac{2.562}{1} \simeq 2.6$

prep : $\frac{82}{5\times8} = 2.05$

review : $\frac{82}{8\times8} = 1.281$

rework : $\frac{91}{5\times8} = \frac{2.275}{1} = 2.275$

⇒ Requirements

write : $\frac{5+3}{2} = 4$; $\frac{210}{4\times8} = \frac{6.562}{3} = 2.187$

Prep : $\frac{18+5}{2} = 11.5 \simeq 12$; $\frac{210}{12\times8} = 2.187$

review : $\frac{28+8}{2} = 18$; $\frac{210}{18\times8} = 1.458$

rework : $\frac{10+5}{2} = 7.5 \simeq 8$; $\frac{240}{8\times8} = \frac{3.75}{3} = 1.25$

Amount of work

P1: $\frac{136 \times 1000}{112} = 1215$

P2: $\frac{413 \times 1000}{387} = 1062$

$\frac{1215 + 1062}{2} = 1139 \times 0.21$

$= 240$

⇒ Build Dev.

server : $\frac{12}{1} = \frac{12}{4} = 3$

client : $\frac{21}{5} = \frac{4.2}{3} = 1.4$

Build : $\frac{12}{1 \times 8} = \frac{1.5}{1} = 1.5$

Test case : $\frac{5}{2} = \frac{2.5}{2} = 1.25$

Simulation : $\frac{8}{2} = \frac{4}{2} = 2$

⇒ Analysis

write : 5 ; $\frac{172}{5 \times 8} = \frac{4.3}{2} = 2.15$

prep : 4 ; $\frac{172}{4 \times 8} = 5.375$

review : 9 ; $\frac{172}{9 \times 8} = 2.388$

rework : 6 ; $\frac{321}{6 \times 8} = 6.687 \cong \frac{6.7}{2} = 3.35$

Amount of work

$\frac{123 \times 1000}{66} = 1863 \times 0.172 = 321$

⇒ Design

write : $\frac{5+4}{2} = 4.5 \cong 5$; $\frac{220}{5 \times 8} = \frac{5.5}{2} = 2.75$

Prep : $\frac{4+5}{2} = 4.5 \cong 5$; $\frac{220}{5 \times 8} = 5.5$

review : $\frac{8+8}{2} = 8 \cong 8$; $\frac{220}{8 \times 8} = 3.05$

rework: $\frac{6+6}{2} = 6$; [illegible]

Amount of work: $\frac{296}{6\times8} = \frac{6.17}{2} \approx 3.1$

P1: $\frac{188\times1000}{89} = 2113$

P2: $\frac{509\times1000}{234} = 2176$

$\frac{2113+2176}{2} = 2143 \times 0.22$

$= 472$

DM

write: $\frac{0.25+1}{2} = 0.625 \cong 1$; $\frac{220}{4\times8} = \frac{27.5}{3} = 9.166$

prep: $\frac{4+4}{2} = 4$; $\frac{220}{4\times8} = 6.875$

review: $\frac{5+10}{2} = 7.5 \cong 8$; $\frac{220}{8\times8} = 3.437$

rework: $\frac{6+6}{2} = 6$; [illegible] $\frac{524}{6\times8} = \frac{10.916}{3}$

$= 3.64$

Amount of work

DP: $\frac{88\times1000}{28} = 3143$

P2: $\frac{378\times1000}{62} = 6097$

$\frac{3143+6097}{2} = 4620 \times 0.064 = 296$

DMP1: $\frac{28\times1000}{89} \cong 315$

P2: $\frac{62\times1000}{234} \cong 265$

$\frac{315+265}{2} = 290 \times 0.22 = 64$

⇒ Coding:

write: $\frac{5+5}{2} = 5$; $\frac{3800}{5\times8} = \frac{95}{5} = 19$

prep/exe: $\frac{1.25+5}{2} = 3.125 \cong 3$; $\frac{335}{8} = [illegible] \frac{112}{4} = 28$

fix: $\frac{8+12}{2} = 10$; $\frac{266}{10} = \frac{26.6}{4} = 6.65$

test: $\frac{12+8}{2} = 10$; $\frac{266}{10} = \frac{26.6}{4} = 6.65$

prep: $\frac{113+90}{2} = 101.5 \cong 102$; $\frac{3800}{102\times8} = 4.66$

meeting: $\frac{189+135}{2} = 162$; $\frac{3800}{162\times8} = 2.932$

rework: $\frac{5+5}{2} = 5$; $\frac{334}{5\times8} = [illegible] \frac{8.425}{5} = 1.685$

Amount of work

Dip

P1: $\frac{256 \times 1000}{3800} = 67.36 \cong 68$

P2: $\frac{1045 \times 1000}{9725} = 107.45 \cong 108$

$\frac{68+108}{2} = 88 \times 3.8 = 335$

fix, test

P1: $\frac{179 \times 1000}{3800} = 47.105 \cong 48$

P2: $\frac{902 \times 1000}{9725} = 92.75 \cong 93$

$\frac{48+93}{2} = 70 \times 3.8 = 266$

rework :

P1: $\frac{188 \times 1000}{3800} = 49.47 \cong 50$

P2: $\frac{1230 \times 1000}{9725} = 126.47 \cong 127$

$\frac{50+127}{2} = 88.5 \times 3.8 \cong 337$

⇒ Testing :

write : $\frac{205}{8} = \frac{25.625}{4} = 6.406$

Prep : $\frac{205}{5 \times 8} = 5.125$

review : $\frac{205}{10 \times 8} = 2.562$

rework : $\frac{101}{4 \times 8} = \frac{3.156}{4} = 0.789$

execute : $\frac{194}{8} = \frac{24.25}{4} = 6.06$

fix : $\frac{113}{5} = \frac{22.6}{4} = 5.65$

test : $\frac{113}{10} = \frac{11.3}{4} = 2.825$

⇒ Documentation :

User : $\frac{4+6}{2} = 5$; $\frac{177}{5 \times 8} = \frac{4.425}{2} = 2.212$

prep : $\frac{5+4}{2} = 4.5 \cong 5$; $\frac{177}{5 \times 8} = 4.425$

review : $\frac{7+7}{2} = 7$; $\frac{177}{7 \times 8} = 3.16$

rework : $\frac{6+9}{2} = 7.5$; $\frac{237}{8 \times 8} = \frac{3.71}{2} = 1.85$

Amount of work

P1 : $\frac{174 \times 1000}{134} \cong 1299$

P2 : $\frac{532 \times 1000}{389} \cong 1368$

$\frac{1299 + 1368}{2} = 1334 \times 0.177$

$= 237$