

Software Project Management (CS587) Assignment - 1

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Part -1

Project Plan

Write Plan:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{56 \text{ pages}}{5 \text{ pages/hour}} \Rightarrow 11.2 \text{ hours}$$

$$\# \text{ days} = \frac{11.2 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 1.4 \text{ days} \cong 2 \text{ days}$$

Review Plan:

Preparation for review:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{56 \text{ pages}}{4 \text{ pages/hour}} \Rightarrow 14 \text{ hours}$$

$$\# \text{ days} = \frac{14 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 1.75 \text{ days} \cong 2 \text{ days}$$

Review Meeting:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{56 \text{ pages}}{8 \text{ pages/hour}} \Rightarrow 7 \text{ hours}$$

$$\# \text{ days} = \frac{7 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 0.87 \text{ days} \cong 1 \text{ days}$$

Rework:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{39 \text{ defetcts}}{5 \text{ defects/hour}} \Rightarrow 7.8 \text{ hours}$$

$$\# \text{ days} = \frac{7.8 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 0.975 \text{ days} \cong 1 \text{ days}$$

Risk Mitigation and Contingency Plan:

Write Plan:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{78 \text{ pages}}{5 \text{ pages/hour}} \Rightarrow 15.6 \text{ hours} \cong 16 \text{ hours}$$

$$\# \text{ days} = \frac{16 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 2 \text{ days}$$

Review Plan:

Preparation for review:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{78 \text{ pages}}{5 \text{ pages/hour}} \Rightarrow 15.6 \text{ hours} \cong 16 \text{ hours}$$

$$\# \text{ days} = \frac{16 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 2 \text{ days}$$

Review Meeting:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{78 \text{ pages}}{10 \text{ pages/hour}} \Rightarrow 7.8 \text{ hours} \cong 8 \text{ hours}$$

$$\# \text{ days} = \frac{8 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 1 \text{ days}$$

Rework:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{19 \text{ defects}}{5 \text{ defects/hour}} \Rightarrow 3.8 \text{ hours} \cong 4 \text{ hours}$$

$$\# \text{ days} = \frac{4 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 1 \text{ days}$$

Requirement:

Write Requirement:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{176 \text{ Req}}{4 \frac{\text{Req}}{\text{hour}}} \Rightarrow 44 \text{ hours}$$

$$\# \text{ days} = \frac{44 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 6 \text{ days}$$

$$6 \text{ days} \cong 1 \text{ Head count (HCT)}$$

$$3 \text{ days} \cong 2 \text{ Head count (HCT)}$$

$$2 \text{ days} \cong 3 \text{ Head count (HCT)}$$

Write Use Case Model:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{62 \text{ Use Cases}}{5 \text{ Use Case / 2 hours}} \Rightarrow 24.8 \text{ hours} \cong 25 \text{ hours}$$

$$\# \text{ days} = \frac{25 \frac{\text{hours}}{\text{day}}}{8 \frac{\text{hours}}{\text{day}}} \Rightarrow 3.125 \text{ days} \cong 4 \text{ days}$$

$$4 \text{ days} \cong 1 \text{ HCT}$$

$$2 \text{ days} \cong 2 \text{ HCT}$$

Review Requirements / Use Case Model

Preparation for review:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{176 \text{ Req}}{18 \text{ Req/hour}} \Rightarrow 9.7 \text{ hours} \cong 10 \text{ hours}$$

$$\# \text{ days} = \frac{10 \text{ hours}}{8 \text{ hours/day}} \Rightarrow \cong 2 \text{ days}$$

Preparation for review for Use Case:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{62 \text{ Use Case}}{4 \text{ Use Case / hour}} \Rightarrow 15.5 \text{ hours} \cong 16 \text{ hours}$$

$$\# \text{ days} = \frac{16 \text{ hours}}{8 \text{ hours/day}} = 2 \text{ days}$$

Review Meeting:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{176 \text{ Req}}{23 \text{ Req/hour}} \Rightarrow 7.65 \text{ hours} \cong 8 \text{ hours}$$

$$\# \text{ days} = \frac{8 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 1 \text{ days}$$

Review Meeting for Use Case:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{62 \text{ Use Case}}{5 \text{ Use Case / hour}} \Rightarrow 12.4 \text{ hours} \cong 13 \text{ hours}$$

$$\# \text{ days} = \frac{13 \text{ hours}}{8 \text{ hours/day}} = 2 \text{ days}$$

Rework:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{127 \text{ defects}}{8 \text{ defects/hour}} \Rightarrow 15.9 \text{ hours} \cong 16 \text{ hours}$$

$$\# \text{ days} = \frac{16 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 2 \text{ days}$$

$$2 \text{ days} \cong 1 \text{ Head count (HCT)}$$

$$1 \text{ days} \cong 2 \text{ Head count (HCT)}$$

$$1 \text{ days} \cong 3 \text{ Head count (HCT)}$$

Analysis:**Write Analysis Document:**

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{72 \text{ pages}}{5 \text{ pages/hour}} \Rightarrow 14.4 \text{ hours} \cong 15 \text{ hours}$$

$$\# \text{ days} = \frac{15 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 1.8 \text{ days} \cong 2 \text{ days}$$

Review Analysis Document:**Preparation for Analysis Document:**

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{72 \text{ pages}}{4 \text{ pages/hour}} \Rightarrow 18 \text{ hours}$$

$$\# \text{ days} = \frac{18 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 2.25 \text{ days} \cong 3 \text{ days}$$

Review Meeting:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{72 \text{ pages}}{7 \text{ pages/hour}} \Rightarrow 10.2 \text{ hours} \cong 11 \text{ hours}$$

$$\# \text{ days} = \frac{11 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 1.3 \text{ days} \cong 2 \text{ days}$$

Rework:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{92 \text{ defects}}{5 \text{ defects/hour}} \Rightarrow 18.4 \text{ hours} \cong 19 \text{ hours}$$

$$\# \text{ days} = \frac{19 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 2.3 \text{ days} \cong 3 \text{ days}$$

Design:

Write DD:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{78 \text{ pages}}{4 \text{ pages/hour}} \Rightarrow 19.5 \text{ hours} \cong 20 \text{ hours}$$

$$\# \text{ days} = \frac{20 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 2.5 \text{ days} \cong 3 \text{ days}$$

Review DD:

Preparation for DD:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{78 \text{ pages}}{5 \text{ pages/hour}} \Rightarrow 15.6 \text{ hours} \cong 16 \text{ hours}$$

$$\# \text{ days} = \frac{16 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 2 \text{ days}$$

Review Meeting:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{78 \text{ pages}}{9 \text{ pages/hour}} \Rightarrow 8.66 \text{ hours}$$

$$\# \text{ days} = \frac{8.66 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 1.08 \text{ days} \cong 2 \text{ days}$$

Rework:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{175 \text{ defects}}{4 \text{ defects/hour}} \Rightarrow 43.75 \text{ hours}$$

$$\# \text{ days} = \frac{43.75 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 5.46 \text{ days} \cong 6 \text{ days}$$

Write Data Model:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{31 \text{ pages}}{1 \frac{\text{pages}}{3 \text{ hour}}} \Rightarrow 93 \text{ hours}$$

$$\# \text{ days} = \frac{93 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 11.6 \text{ days} \cong 12 \text{ days}$$

Review DM:

Preparation for DM:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{31 \text{ pages}}{5 \text{ pages/hour}} \Rightarrow 6.2 \text{ hours} \cong 7 \text{ hours}$$

$$\# \text{ days} = \frac{7 \text{ hours}}{8 \text{ hours/day}} \cong 1 \text{ days}$$

Review Meeting:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{31 \text{ pages}}{4 \text{ pages/hour}} \Rightarrow 7.75 \text{ hours} \cong 8 \text{ hours}$$

$$\# \text{ days} = \frac{8 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 1 \text{ day}$$

Rework:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{79 \text{ defects}}{7 \text{ defects/hour}} \cong 12 \text{ hours}$$

$$\# \text{ days} = \frac{12 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 1.5 \text{ days} \cong 2 \text{ days}$$

Coding and Unit Testing:

Write Code:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{3758 \text{ SLOC}}{5 \text{ SLOC/hour}} \cong 751.6 \text{ hours}$$

$$\# \text{ days} = \frac{751.6 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 93.95 \text{ days} \cong 94 \text{ days}$$

94 Days \sim 1 HCT

47.5 Days \sim 2 HCT

31.66 Days \sim 3 HCT \Rightarrow 32 Days \sim 3 HCT

23.5 Days \sim 4 HCT \Rightarrow 24 Days \sim 4 HCT

Unit Testing:

Preparation/Execute Test Cases

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{194 \text{ Test Cases}}{8 \text{ Test Cases/hour}} \cong 24.25 \text{ hours} \cong 25 \text{ days}$$

25 days \cong 1 HCT

13.5 days \cong 2 HCT

8.3 days \cong 3 HCT \Rightarrow 9 days \cong 3 HCT

6.25 days \cong 4 HCT

5 days \cong 5 HCT

Fix Found Defects

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{184 \text{ defects}}{7 \text{ defects/hour}} \cong 26.28 \text{ hours} \cong 27 \text{ days}$$

27 Days \cong 1 HCT

13.5 Days \cong 2 HCT

9 Days \cong 3 HCT

6.75 Days \cong 4 HCT \Rightarrow 7 Days \sim 4 HCT

Test Fixed Defects

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{184 \text{ defects}}{6 \text{ defects/hour}} \Rightarrow 30.6 \text{ hrs} \cong 31 \text{ hours}$$

31 Days \cong 1HCT

16 Days \cong 2HCT

11Days \cong 3HCT

Code Inspection:

Preparation for Code Inspection:

Time in hrs = $\frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{3758 \text{ SLOC}}{124 \text{ SLOC/hour}} \Rightarrow 30.3 \text{ hours} \cong 31 \text{ hours}$

days = $\frac{31 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 3.8 \text{ days} \cong 4 \text{ days}$

Code Inspection Meeting:

Time in hrs = $\frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{3758 \text{ SLOC}}{210 \text{ SLOC/hour}} \Rightarrow 17.89 \text{ hrs} \cong 18 \text{ hours}$

days = $\frac{18 \text{ hours}}{8 \text{ hours/day}} = 2.2 \text{ days} \cong 3 \text{ days}$

Rework:

Time in hrs = $\frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{174 \text{ defects}}{4 \text{ defects/hour}} \Rightarrow 43.5 \text{ hours} \cong 44 \text{ hours}$

days = $\frac{44 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 5.5 \text{ days} \cong 6 \text{ days}$

Testing:

Write Test Plan (TP):

Time in hrs = $\frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{210 \text{ pages}}{6 \text{ pages/day}} \Rightarrow 35 \text{ days}$

35 days \cong 1HCT

18 days \cong 2HCT

Review TP:

Prepare for TP:

Time in hrs = $\frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{210 \text{ pages}}{5 \text{ pages/hour}} \Rightarrow 42 \text{ hours}$

days = $\frac{42 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 5.25 \text{ days} \cong 6 \text{ days}$

Review TP Meeting:

Time in hrs = $\frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{210 \text{ pages}}{8 \text{ pages/hour}} \Rightarrow 26.25 \text{ hours} \cong 27 \text{ hours}$

days = $\frac{27 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 3.3 \text{ days} \cong 4 \text{ days}$

Rework:

Time in hrs = $\frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{287 \text{ defects}}{6 \text{ defects/hour}} \Rightarrow 47.8 \text{ hrs} \cong 48 \text{ hours}$

$$\# \text{ days} = \frac{48 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 6 \text{ days}$$

Execute TP (test cases):

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{259 \text{ test cases}}{6 \text{ test cases/day}} \Rightarrow 32.3 \text{ days} \cong 33 \text{ days}$$

33 Days \cong 1HCT

16.5 Days \cong 2HCT

11 Days \cong 3HCT

Fix Found Defects:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{188 \text{ defects}}{9 \text{ defects/day}} \Rightarrow 20.88 \text{ days} \cong 21 \text{ days}$$

21 Days \cong 1HCT

10.5 Days \cong 2HCT

7 Days \cong 3HCT

Test Fixed Defects:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{188 \text{ defects}}{13 \text{ defects/day}} \Rightarrow 14.46 \text{ days} \cong 15 \text{ days}$$

15 Days \cong 1HCT

7.5 Days \cong 2HCT

5 Days \cong 3HCT

Documentation:

User Documentation:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{147 \text{ pages}}{4 \text{ pages/hour}} \Rightarrow 36.75 \text{ hrs} \cong 37 \text{ hours}$$

$$\# \text{ days} = \frac{37 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 4.6 \text{ days} \cong 5 \text{ days}$$

Review UD:

Preparation for UD Review:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{147 \text{ pages}}{4 \text{ pages/hour}} \Rightarrow 36.75 \text{ hrs} \cong 37 \text{ hours}$$

$$\# \text{ days} = \frac{37 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 4.6 \text{ days} \cong 5 \text{ days}$$

Review UD Review:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{147 \text{ pages}}{6 \text{ pages/hour}} \Rightarrow 24.5 \text{ hrs} \cong 25 \text{ hours}$$

$$\# \text{ days} = \frac{25 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 3.125 \text{ days} \cong 4 \text{ days}$$

Rework:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{163 \text{ defects}}{8 \text{ defects/hour}} \Rightarrow 20.3 \text{ hrs} \cong 21 \text{ hours}$$

$$\# \text{ days} = \frac{21 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 2.6 \text{ days} \cong 3 \text{ days}$$

Part -2**Project Plan****Write Plan:**

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{56 \text{ pages}}{5 \text{ pages/hour}} \Rightarrow 11.2 \text{ hours}$$

$$\# \text{ days} = \frac{11.2 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 1.4 \text{ days} \cong 2 \text{ days}$$

2 Days ----- > 100% utilization

? ----- > 20% utilization

$$\frac{2 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{2 * 100}{20} \Rightarrow 10 \text{ days}$$

Review Plan:**Preparation for review:**

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{56 \text{ pages}}{4 \text{ pages/hour}} \Rightarrow 14 \text{ hours}$$

$$\# \text{ days} = \frac{14 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 1.75 \text{ days} \cong 2 \text{ days}$$

It following a inverse proportional model.

2 Days ----- > 100% utilization

? ----- > 20% utilization

$$\frac{2 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{2 * 100}{20} \Rightarrow 10 \text{ days}$$

Review Meeting:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{56 \text{ pages}}{8 \text{ pages/hour}} \Rightarrow 7 \text{ hours}$$

$$\# \text{ days} = \frac{7 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 0.87 \text{ days} \cong 1 \text{ days}$$

1 Days ----- > 100% utilization

? ----- > 20% utilization

$$\frac{1 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{1 * 100}{20} \Rightarrow 5 \text{ days}$$

Rework:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{39 \text{ defects}}{5 \text{ defects/hour}} \Rightarrow 7.8 \text{ hours}$$

$$\# \text{ days} = \frac{7.8 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 0.975 \text{ days} \cong 1 \text{ days}$$

1 Days ----- > 100% utilization
 ? ----- > 20% utilization

$$\frac{1 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{1 * 100}{20} \Rightarrow 5 \text{ days}$$

Risk Mitigation and Contingency Plan:**Write Plan:**

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{78 \text{ pages}}{5 \text{ pages/hour}} \Rightarrow 15.6 \text{ hours} \cong 16 \text{ hours}$$

$$\# \text{ days} = \frac{15.6 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 1.96 \text{ days} \cong 2 \text{ days}$$

2 Days ----- > 100% utilization
 ? ----- > 20% utilization

$$\frac{1.96 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{1.96 * 100}{20} \Rightarrow 9.8 \cong 10 \text{ days}$$

Review Plan:**Preparation for review:**

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{78 \text{ pages}}{5 \text{ pages/hour}} \Rightarrow 15.6 \text{ hours} \cong 16 \text{ hours}$$

$$\# \text{ days} = \frac{16 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 2 \text{ days}$$

2 Days ----- > 100% utilization
 ? ----- > 20% utilization

$$\frac{1.96 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{1.96 * 100}{20} \Rightarrow 9.8 \cong 10 \text{ days}$$

Review Meeting:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{78 \text{ pages}}{10 \text{ pages/hour}} \Rightarrow 7.8 \text{ hours} \cong 8 \text{ hours}$$

$$\# \text{ days} = \frac{8 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 1 \text{ days}$$

$$\frac{1 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{1 * 100}{20} \Rightarrow 5 \text{ days}$$

Rework:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{19 \text{ defects}}{5 \text{ defects/hour}} \Rightarrow 3.8 \text{ hours} \cong 4 \text{ hours}$$

$$\# \text{ days} = \frac{4 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 0.5 \text{ days} \cong 1 \text{ days}$$

$$\frac{0.5 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{0.5 * 100}{20} \Rightarrow 2.5 \text{ days} \cong 3 \text{ days}$$

Requirement:

Write Requirement:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{176 \text{ Req}}{4 \frac{\text{Req}}{\text{hour}}} \Rightarrow 44 \text{ hours}$$

$$\# \text{ days} = \frac{44 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 5.5 \text{ days}$$

$$\frac{5.5 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{5.5 * 100}{20} \Rightarrow 27.5 \text{ days} \cong 28 \text{ days}$$

28 days \cong 1 Head count (HCT)

14 days \cong 2 Head count (HCT)

9.33 \cong 10 days \cong 3 Head count (HCT)

Write Use Case Model:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{62 \text{ Use Cases}}{5 \text{ Use Case / 2 hours}} \Rightarrow 24.8 \cong 25 \text{ hours}$$

$$\# \text{ days} = \frac{25 \text{ hours}}{8 \frac{\text{hours}}{\text{day}}} \Rightarrow 3.125 \text{ days} \cong 4 \text{ days}$$

$$\frac{3.125 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{3.125 * 100}{20} \Rightarrow 15.6 \text{ days} \cong 16 \text{ days}$$

16 days \cong 1 HCT

8 days \cong 2 HCT

Review Requirements / Use Case Model

Preparation for review:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{176 \text{ Req}}{18 \text{ Req/hour}} \Rightarrow 9.7 \text{ hours} \cong 10 \text{ hours}$$

$$\# \text{ days} = \frac{10 \text{ hours}}{8 \text{ hours/day}} = 1.25 \text{ days} > \cong 2 \text{ days}$$

$$\frac{1.25 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{1.25 * 100}{20} \Rightarrow 6.25 \text{ days} \cong 7 \text{ days}$$

Preparation for review for Use Case:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{62 \text{ Use Case}}{4 \text{ Use Case / hour}} \Rightarrow 15.5 \cong 16 \text{ hours}$$

$$\# \text{ days} = \frac{15.5 \text{ hours}}{8 \text{ hours/day}} = 1.93 \cong 2 \text{ days}$$

$$\frac{1.93 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{1.93 * 100}{20} \Rightarrow 9.65 \text{ days} \cong 10 \text{ days}$$

Review Meeting:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{176 \text{ Req}}{23 \text{ Req/hour}} \Rightarrow 7.65 \text{ hours} \cong 8 \text{ hours}$$

$$\# \text{ days} = \frac{7.65 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 0.95 \cong 1 \text{ days}$$

$$\frac{0.95 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{0.95 * 100}{20} \Rightarrow 4.75 \text{ days} \cong 5 \text{ days}$$

Review Meeting for Use Case:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{62 \text{ Use Case}}{5 \text{ Use Case / hour}} \Rightarrow 12.4 \cong 13 \text{ hours}$$

$$\# \text{ days} = \frac{12.4 \text{ hours}}{8 \frac{\text{hours}}{\text{day}}} = 1.55 \text{ days}$$

$$\frac{1.55 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{1.55 * 100}{20} \Rightarrow 7.75 \text{ days} \cong 8 \text{ days}$$

Rework:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{127 \text{ defects}}{8 \text{ defects/hour}} \Rightarrow 15.9 \text{ hours} \cong 16 \text{ hours}$$

$$\# \text{ days} = \frac{15.9 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 1.98 \text{ days}$$

$$\frac{1.98 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{1.98 * 100}{20} \Rightarrow 9.9 \text{ days} \cong 10 \text{ days}$$

10 days \cong 1 Head count (HCT)

5 days \cong 2 Head count (HCT)

3.33 \cong 4 days \cong 3 Head count (HCT)

Analysis:

Write Analysis Document:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{72 \text{ pages}}{5 \text{ pages/hour}} \Rightarrow 14.4 \text{ hours} \cong 15 \text{ hours}$$

$$\# \text{ days} = \frac{14.4 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 1.8 \text{ days}$$

$$\frac{1.8 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{1.8 * 100}{20} \Rightarrow 9 \text{ days}$$

Review Analysis Document:

Preparation for Analysis Document:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{72 \text{ pages}}{4 \text{ pages/hour}} \Rightarrow 18 \text{ hours}$$

$$\# \text{ days} = \frac{18 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 2.25 \text{ days}$$

$$\frac{2.25 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{2.25 * 100}{20} \Rightarrow 11.25 \cong 12 \text{ days}$$

Review Meeting:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{72 \text{ pages}}{7 \text{ pages/hour}} \Rightarrow 10.2 \text{ hours} \cong 11 \text{ hours}$$

$$\# \text{ days} = \frac{10.2 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 1.28 \text{ days}$$

$$\frac{1.28 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{1.28 * 100}{20} \Rightarrow 6.4 \cong 7 \text{ days}$$

Rework:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{92 \text{ defects}}{5 \text{ defects/hour}} \Rightarrow 18.4 \text{ hours}$$

$$\# \text{ days} = \frac{18.4 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 2.3 \text{ days} \cong 3 \text{ days}$$

$$\frac{2.3 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{2.3 * 100}{20} \Rightarrow 11.5 \cong 12 \text{ days}$$

Design:

Write DD:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{78 \text{ pages}}{4 \text{ pages/hour}} \Rightarrow 19.5 \text{ hours} \cong 20 \text{ hours}$$

$$\# \text{ days} = \frac{20 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 2.5 \text{ days} \cong 3 \text{ days}$$

$$\frac{2.5 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{2.5 * 100}{20} \Rightarrow 12.5 \cong 13 \text{ days}$$

Review DD:**Preparation for DD:**

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{78 \text{ pages}}{5 \text{ pages/hour}} \Rightarrow 15.6 \text{ hours} \cong 16 \text{ hours}$$

$$\# \text{ days} = \frac{16 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 2 \text{ days}$$

$$\frac{2 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{2 * 100}{20} \Rightarrow 9.75 \cong 10 \text{ days}$$

Review Meeting:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{78 \text{ pages}}{9 \text{ pages/hour}} \Rightarrow 8.66 \text{ hours}$$

$$\# \text{ days} = \frac{8.66 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 1.08 \text{ days}$$

$$\frac{1.08 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{1.08 * 100}{20} \Rightarrow 5.4 \cong 6 \text{ days}$$

Rework:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{175 \text{ defects}}{4 \text{ defects/hour}} \Rightarrow 43.75 \text{ hours}$$

$$\# \text{ days} = \frac{43.75 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 5.46 \text{ days} \cong 6 \text{ days}$$

$$\frac{5.46 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{5.46 * 100}{20} \Rightarrow 27.3 \cong 28 \text{ days}$$

Write Data Model:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{31 \text{ pages}}{1 \frac{\text{pages}}{3 \text{ hour}}} \Rightarrow 93 \text{ hours}$$

$$\# \text{ days} = \frac{93 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 11.6 \text{ days} \cong 12 \text{ days}$$

$$\frac{11.6 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{11.6 * 100}{20} \Rightarrow 58 \text{ days}$$

58 Days \cong 1 HCT

29 Days \cong 2 HCT

Review DM:**Preparation for DM:**

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{31 \text{ pages}}{5 \text{ pages/hour}} \Rightarrow 6.2 \text{ hours} \cong 7 \text{ hours}$$

$$\# \text{ days} = \frac{7 \text{ hours}}{8 \text{ hours/day}} \cong 1 \text{ days}$$

$$\frac{1 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{1 * 100}{20} \Rightarrow 5 \text{ days}$$

Review Meeting:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{31 \text{ pages}}{4 \text{ pages/hour}} \Rightarrow 7.75 \text{ hours} \cong 8 \text{ hours}$$

$$\# \text{ days} = \frac{8 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 1 \text{ day}$$

$$\frac{1 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{1 * 100}{20} \Rightarrow 5 \text{ days}$$

Rework:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{79 \text{ defects}}{7 \text{ defects/hour}} \cong 12 \text{ hours}$$

$$\# \text{ days} = \frac{12 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 1.5 \text{ days} \cong 2 \text{ days}$$

$$\frac{1.5 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{1.5 * 100}{20} \Rightarrow 7.5 \cong 8 \text{ days}$$

8 Days \cong 1 HCT

4 Days \cong 2 HCT

Coding and Unit Testing:

Write Code:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{3758 \text{ SLOC}}{5 \text{ SLOC/hour}} \cong 751.6 \text{ hours}$$

$$\# \text{ days} = \frac{751.6 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 93.95 \text{ days}$$

$$\frac{93.95 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{93.95 * 100}{20} \Rightarrow 467.5 \cong 468 \text{ days}$$

468 Days \cong 1 HCT

232.75 Days \cong 2 HCT

155.17 Days \cong 3 HCT \Rightarrow 32 Days \cong 3 HCT

116.38 \Rightarrow 117 Days \cong 4 HCT

Unit Testing:

Preparation/Execute Test Cases

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{194 \text{ Test Cases}}{8 \text{ Test Cases/hour}} \cong 24.25 \text{ hours} \cong 25 \text{ days}$$

$$\frac{24.25 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{24.25 * 100}{20} \Rightarrow 121.25 \text{ days} \cong 122 \text{ days}$$

122 days \cong 1 HCT

61 days \cong 2 HCT

40.66 days \cong 3 HCT \Rightarrow 41 days \cong 3 HCT

Fix Found Defects

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{184 \text{ defects}}{7 \text{ defects/hour}} \cong 26.28 \text{ hours} \cong 27 \text{ days}$$

$$\frac{26.28 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{26.28 * 100}{20} \Rightarrow 131.4 \text{ days} \cong 132 \text{ days}$$

132 Days \cong 1 HCT

66 Days \cong 2 HCT

44 Days \cong 3 HCT

33 Days \cong 4 HCT

Test Fixed Defects

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{184 \text{ defects}}{6 \text{ defects/hour}} \Rightarrow 30.6 \text{ hrs} \cong 31 \text{ hours}$$

$$\frac{30.6 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{30.6 * 100}{20} \Rightarrow 153 \text{ days}$$

153 Days \cong 1HCT

76.5 Days \cong 2HCT

51 Days \cong 3HCT

Code Inspection:

Preparation for Code Inspection:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{3758 \text{ SLOC}}{124 \text{ SLOC/hour}} \Rightarrow 30.3 \text{ hours} \cong$$

31 hours

$$\# \text{ days} = \frac{31 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 3.8 \text{ days} \cong 4 \text{ days}$$

$$\frac{3.8 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{3.8 * 100}{20} \Rightarrow 19 \text{ days}$$

Code Inspection Meeting:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{3758 \text{ SLOC}}{210 \text{ SLOC/hour}} \Rightarrow 17.89 \text{ hrs} \cong 18 \text{ hours}$$

$$\# \text{ days} = \frac{18 \text{ hours}}{8 \text{ hours/day}} = 2.2 \text{ days} \cong 3 \text{ days}$$

$$\frac{2.2 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{2.2 * 100}{20} \Rightarrow 11 \text{ days}$$

Rework:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{174 \text{ defects}}{4 \text{ defects/hour}} \Rightarrow 43.5 \text{ hours} \cong 44 \text{ hours}$$

$$\# \text{ days} = \frac{44 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 5.5 \text{ days} \cong 6 \text{ days}$$

$$\frac{5.5 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{5.5 * 100}{20} \Rightarrow 27.5 \text{ days} \cong 28 \text{ days}$$

Testing:

Write Test Plan (TP):

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{210 \text{ pages}}{6 \text{ pages/day}} \Rightarrow 35 \text{ days}$$

$$\frac{35 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{35 * 100}{20} \Rightarrow 175 \text{ days}$$

$$175 \text{ days} \Rightarrow 1\text{HCT}$$

$$87.5 \text{ days} \cong 88 \text{ days} \Rightarrow 2\text{HCT}$$

Review TP:

Prepare for TP:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{210 \text{ pages}}{5 \text{ pages/hour}} \Rightarrow 42 \text{ hours}$$

$$\# \text{ days} = \frac{42 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 5.25 \text{ days}$$

$$\frac{5.25 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{5.25 * 100}{20} \Rightarrow 26.25 \cong 27 \text{ days}$$

Review TP Meeting:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{210 \text{ pages}}{8 \text{ pages/hour}} \Rightarrow 26.25 \text{ hours} \cong$$

27 hours

$$\# \text{ days} = \frac{26.25 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 3.3 \text{ days}$$

$$\frac{3.3 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{3.3 * 100}{20} \Rightarrow 16.5 \text{ days} \cong 17 \text{ days}$$

Rework:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{287 \text{ defects}}{6 \text{ defects/hour}} \Rightarrow 47.8 \text{ hrs} \cong 48 \text{ hours}$$

$$\# \text{ days} = \frac{48 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 6 \text{ days}$$

$$\frac{6 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{6 * 100}{20} \Rightarrow 30 \text{ days}$$

30 Days \cong 1HCT

15 Days \cong 2HCT

Execute TP (test cases):

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{259 \text{ test cases}}{6 \text{ test cases/ day}} \Rightarrow 32.3 \text{ days}$$

$$\frac{32.3 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{32.3 * 100}{20} \Rightarrow 161.5 \text{ days} \cong 162 \text{ days}$$

162 Days \cong 1HCT

81 Days \cong 2HCT

54 Days \cong 3HCT

Fix Found Defects:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{188 \text{ defects}}{9 \text{ defects/ day}} \Rightarrow 20.88 \text{ days} \cong 21 \text{ days}$$

$$\frac{21 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{21 * 100}{20} \Rightarrow 105 \text{ days}$$

105 days \cong 1HCT

52.5 Days \cong 2HCT

35 Days \cong 3HCT

Test Fixed Defects:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{188 \text{ defects}}{13 \text{ defects/ day}} \Rightarrow 14.46 \text{ days}$$

$$\frac{14.46 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{14.46 * 100}{20} \Rightarrow 72.3 \text{ days} \cong 73 \text{ days}$$

73 Days \cong 1HCT

36.5 Days \cong 2HCT

24.33 Days \cong 3HCT \Rightarrow 25 Days \cong 3HCT

Documentation:

User Documentation:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{147 \text{ pages}}{4 \text{ pages/hour}} \Rightarrow 36.75 \text{ hrs} \cong 37 \text{ hours}$$

$$\# \text{ days} = \frac{37 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 4.6 \text{ days}$$

$$\frac{4.6 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{4.6 * 100}{20} \Rightarrow 23 \text{ days}$$

Review UD:

Preparation for UD Review:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{147 \text{ pages}}{4 \text{ pages/hour}} \Rightarrow 36.75 \text{ hrs} \cong 37 \text{ hours}$$

$$\# \text{ days} = \frac{37 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 4.6 \text{ days} \cong 5 \text{ days}$$

$$\frac{4.6 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{4.6 * 100}{20} \Rightarrow 23 \text{ days}$$

Review UD Review:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{147 \text{ pages}}{6 \text{ pages/hour}} \Rightarrow 24.5 \text{ hrs} \cong 25 \text{ hours}$$

$$\# \text{ days} = \frac{25 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 3.125 \text{ days}$$

$$\frac{3.125 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{3.125 * 100}{20} \Rightarrow 15.6 \cong 16 \text{ days}$$

Rework:

$$\text{Time in hrs} = \frac{\text{Amount of Work}}{\text{Productivity Rate}} \Rightarrow \frac{163 \text{ defects}}{8 \text{ defects/hour}} \Rightarrow 20.3 \text{ hrs} \cong 21 \text{ hours}$$

$$\# \text{ days} = \frac{20.3 \text{ hours}}{8 \text{ hours/day}} \Rightarrow 2.53 \text{ days} \cong 3 \text{ days}$$

$$\frac{2.53 \text{ Days}}{100 \%} = \frac{x \text{ Days}}{20 \%} \Rightarrow \frac{2.53 * 100}{20} \Rightarrow 12.65 \cong 13 \text{ days}$$