

1.

**PUM (Problems per User Month):**

$$\text{PUM} = (\text{Total Problems Reported} / \text{Total User Months})$$

In this case, Total Problems Reported = 200 and Total User Months = 3 (since it's a 3-month period and there are 50 licensed copies installed).

$$\text{PUM} = 200 / 3 = 66.67$$

So, PUM is approximately 66.67.

2.

**Defect Density:**

$$\text{Defect Density} = (\text{Total Defects} / \text{Size of the Application})$$

Since we don't have information about the size of the application, we can't calculate the defect density without that information.

**3. BMI (Bad Fix Impact):**

$$\text{BMI} = (\text{False Positives} / \text{Total Defects Closed})$$

In this case, False Positives (FP) = 45 and Total Defects Closed = 156.

$$\text{BMI} = 45 / 156 \approx 0.2885 \text{ (rounded to 4 decimal places)}$$

So, BMI is approximately 0.2885.

**4. Percent Delinquent Fixes:**

$$\text{Percent Delinquent Fixes} = (\text{Defects Closed After Response Time} / \text{Total Defects Closed}) * 100$$

In this case, Defects Closed After Response Time = Total Defects Closed - Defects Closed Within Response Time = 156 - 144 = 12.

$$\text{Percent Delinquent Fixes} = (12 / 156) * 100 \approx 7.69\% \text{ (rounded to 2 decimal places)}$$

So, the percent of delinquent fixes is approximately 7.69%.