**PART A: (PERT)**

**Formula:**

(Optimistic + 4 x most likely + pessimistic) / 6 = Duration

**ANSWER:**

A = (4 + 4\*9 + 16) / 6 = 9.33

B = (3 + 4\*6 + 9) / 6 = 6

C = (6 + 4\*12 + 24) / 6 = 13

**PART B: (SD and Variance)**

**Formulas:**

(P - O) / 6 = Task SD

Task SD \* 2 = Variance

**ANSWER:**

A:

Task SD = (16 - 4) / 6 = 2

Variance = 2 \* 2 = 4

B:

Task SD = (9 - 3) / 6 = 1

Variance = 1 \* 2 = 2

C:

Task SD = (24 - 6) / 6 = 3

Variance = 3 \* 2 = 6

**PART C: (Project Standard Deviation)**

**Formula:**

sqrt(sum of the task variances) = Project SD

**ANSWER:**

Project SD = sqrt(4 + 2 + 6) = sqrt(12) = 3.46

**PART D: (Probability of completing in 32 days)**

**ANSWER:**

Having Standard Deviation of 3.46 days for the ABC project, the probability of completing the ABC project lies within ( 32 / 3.46 ) = 9.24 standard deviations away from the mean, making the probability of completing the ABC project in 32 day to be less than 0.5%.