

Exam 1 Practice Questions

Lecture 1:

1.1 What is **NOT** a benefit of teamwork?

- a. Diverse perspectives
- b. Diverse set of skills
- c. Some else will do the work for you
- d. Broader range of possible solutions

1.2 Match the term to its proper definition:

- A. Forming
- B. Storming
- C. Norming
- D. Performing
- E. Adjourning

- 1. Stage of team development when conflict and competition arises
- 2. Stage of motivation when teams work well, characterized by high motivation, trust, and empathy
- 3. Phase when team first comes together, generally polite tone with some uncertainty, anxiety, and questioning
- 4. Phase when team is disbanded, transitions to a new team or project
- 5. Phase when team becomes cohesive, gains confidence, and members are engaged

1.3 True or false:

Teams who collaborate effectively never experience conflict

Lecture 2:

2.1 Define the term accuracy:

2.2 Define the term precision:

2.3 While throwing darts you throw four darts. They are clustered tightly together, each within a half inch of each other. These darts are all in the wall, three and a half feet to the left of the dartboard. How would you describe your technique?

- a. Both accurate and precise
- b. Neither accurate nor precise
- c. Accurate but not precise
- d. Precise but biased

2.4 How many significant figures in the number 208.0 ?

2.5 You have the same number represented three different ways. Match these numbers to the notation style

- a. 79300
- b. 7.93×10^4
- c. 79.3×10^3

Scientific: _____

Engineering: _____

Standard: _____

2.6 A container of molasses has a diameter of 5.75 ft and a depth of 86 inches. You want to buy a pump that can empty the tank in less than 45 minutes. What is the minimum flow rate for a pump in m^3/s ? (Assume 1 ft = 0.3048 m and 1 ft = 12 inches)

2.7 Given the equation written below, what would be the units for F? Assume δ is deflection with units of inches, L is length with units of inches, E is modulus with units of lb/in^2 , and I is Area Moment of Inertia with units of in^4 ?

$$\delta = \frac{F L^3}{3 E I}$$

2.8 What framework do we use for Engineering Problem Solving?

- a. PEMDAS
- b. DRPIE
- c. PETG
- d. HOTTOGO

2.9 Match the term with its definition

- A. Define
- B. Represent
- C. Plan
- D. Implement
- E. Evaluate

- 1. Execute on your planned steps, perform necessary calculations
- 2. Restate the problem simply and concisely
- 3. Write the steps required to solve the problem
- 4. Create a graphical representation of the problem
- 5. Determine if the answer is appropriate, including if the units and significant figure are correct

2.10 Two groups are measuring the density of a new alloy, for which there is no accepted standard. When comparing the values from each group, would you use the percent error or percent difference equation?

2.11 While purchasing windows, you measured the distance between the jambs to be 52 inches wide. When the windows arrived, you discover that none of the windows fit because the distance between the jambs is actually 48 inches wide. What is the percent error in your measurement?

Lecture 3:

3.1 In Excel, how would I write the formula to multiply the value in C2, the average value of cells B1 through B5, and the square root of the value in E7?

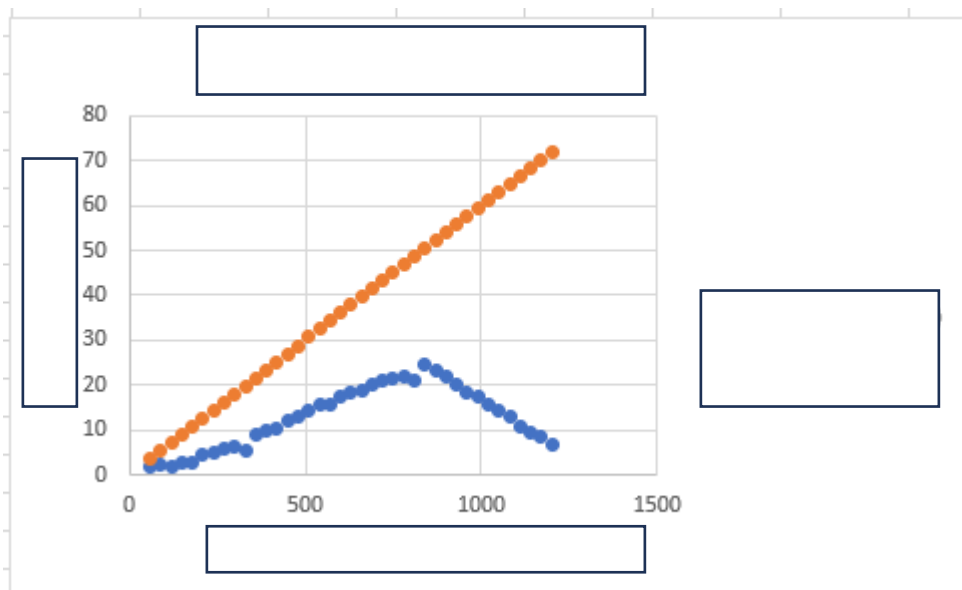
3.2 Match the reference to the reference type:

- A. Absolute referencing
- B. Relative referencing
- C. Mixed absolute referencing

- 1. A\$1
- 2. \$A\$1
- 3. A1

3.3 Place each chart element into its correct location for a Scatter X-Y plot

- A. Axis title (independent variable)
- B. Axis title (dependent variable)
- C. Chart title
- D Legend



3.4 Define the terms Mean, Median, Mode, and Standard Deviation