

Assignment: EXCEL 2010 Lab2

1. Create an Excel formula to perform the following calculations: [5 points]

$$3 * \frac{4+5}{6} + 9$$

$$(5+2)^2 + 8^2 - 3/5$$

$$6\frac{4}{5} + 8 - 3 * 2^2$$

$$1 + 5 * \frac{3}{6^2} + 2^{2-4} * \frac{1}{5.5}$$

2. Generate a table of conversions from degrees to radians. The first line should contain the values for 0°, the second line should contain the value of 10°, and so on. The last line should contain the values for 360°. Use formatting to give you table an appropriate header and internal and external borders. [10 points]

3. Generate a table of conversions from centimeters to inches. Start the centimeter column at 0 and increment by 2 centimeters. The last line should contain the value 30cm. Use formatting to give you table an appropriate header and internal and external borders. Use formatting to give you table an appropriate header and internal and external borders. [10 points]

4. Create the following matrix **A**:

$$A = \begin{bmatrix} 3.4 & 2.1 & 6.5 \\ 4.2 & 7.7 & 4.5 \\ 8.9 & 8.3 & 3.4 \end{bmatrix}$$

Raise **A** to second power by array exponentiation (same as element-by-element). Raise **A** to second power by matrix exponentiation. Explain why the answers are different. [5 points]

5. Write the following sets of simultaneous equations in matrix form, and solve if possible.

(a) $3x + y + 5z = 20$, $2x + 3y - z = 5$, $-x + 4y = 7$ [5 points]

(b) $6x + 2y + 8z = 14$, $x + 3y + 4z = 5$, $5x + 6y + 2z = 7$ [5 points]

6. Voltage of a circuit can be calculated by $V = I \cdot R$, where I is the current and R is the resistance. Use 0.1, 0.2, 0.3, 0.4, 0.5 **A** for currents I and 3.1, 2.8, 2.5, 2.4, 1.5 **k Ω** for resistances R . Calculate the voltage for the given currents and resistances. Apply matrix **Element-by-Element** operation. [5 points]

7. Write the grades as a column vector. (a) Use **sort()** function to sort the 15 scores (b) by using Excel's **median()** function to find the median of the original vector of grades. [5 points]

Grades = [78 85 43 67 65 98 56 87 90 86 65 79 80 69 71]