1. Given the following array \( a \),

\[
a = \begin{bmatrix}
1 & 4 & 2 & 4 \\
7 & 5 & 9 & 2 \\
-5 & 7 & -2 & 0
\end{bmatrix}
\]

Determine the result of each of the following commands.

\[
\begin{align*}
\text{>> } & a(2, 3) \\
\text{>> } & a(2, :) \\
\text{>> } & a(6) \\
\text{>> } & a(3, 2:end) \\
\text{>> } & a(1:2, 4:-1:2) \\
\text{>> } & a([[2 2], [2 3]]) \\
\text{>> } & a > 5 \\
\text{>> } & \text{sum}(a) \\
\text{>> } & a(:) \\
\text{>> } & [a(1,:), a(2,:)] \\
\text{>> } & [a(1,:); a(2,:)]
\end{align*}
\]

2. What are the results of the following commands?

\[
\begin{align*}
\text{>> } & a = [5 2 3 5 8]; \\
\text{>> } & b = [9 2 5 0 8]; \\
\text{>> } & a == 5 \\
\text{>> } & a == b
\end{align*}
\]

3. What is the result of each of the following commands?
4. What is the result of the following command?

\[
\begin{align*}
\text{>> n} & = 0:0.5:3.2 \\
\end{align*}
\]

5. What is the result of the following commands?

\[
\begin{align*}
\text{>> n} & = 2:7 \\
\text{>> n(2)} & = []; \\
\text{>> n} &
\end{align*}
\]

6. What are all the results of the following commands?

\[
\begin{align*}
\text{>> a} & = [3 4; 7 8]; \\
\text{>> b} & = [1 0; 0 1]; \\
\text{>> a}' & \\
\text{>> a} - 1 & \\
\text{>> a .* b} & \\
\text{>> a * b} & \\
\text{>> a | b} & \\
\text{>> a & b} & \\
\text{>> a .^ 2} & \\
\text{>> a ^ 2} &
\end{align*}
\]

7. The following code fragment produces 3 graphs. Sketch each of the three graphs.

\[
\begin{align*}
\text{>> n} & = 0:7; \\
\text{>> x} & = 2*n + 1; \\
\text{>> stem(n,x)} \\
\text{>> plot(n,x)} \\
\text{>> y} & = (-1).^n; \\
\text{>> plot(n,x,n,y)}
\end{align*}
\]

8. Sketch the 3 graphs produced by the following code.
9. Write a short Matlab code that will plot a sinusoid of frequency 50 Hz for 10 cycles.

10. The file kiwi.m contains the following:

    ```matlab
    y = 5;
    x = 6;
    z = x + y;
    ```

    The file grape.m contains the following:

    ```matlab
    function z = grape(x,y)
    z = x + y;
    ```

    What is the result of the following commands?

    ```matlab
    >> clear
    >> x = 2;
    >> y = 5;
    >> kiwi
    >> z
    ```

    What is the result of the following commands?

    ```matlab
    >> clear
    >> x = 2;
    >> y = 5;
    >> z = grape(x,y);
    >> z
    ```