## 1 Assignment (5 points)

$$
\begin{aligned}
& \mathrm{x}=6 ; \\
& \mathrm{y}=3 ; \\
& \mathrm{z}=\mathrm{x} / \mathrm{y} ; \\
& \mathrm{x}=\mathrm{x}-\mathrm{y} ; \\
& \mathrm{y}=\mathrm{z}+2 * \mathrm{x} ;
\end{aligned}
$$

What are the final values for

```
x: y: z:
```


## 2 MATLAB functions (5 points)

```
    phi = 2*pi;
    theta = phi/2;
    st = sin(theta);
    val = exp(st);
% theta = 2*theta;
    cos(theta)
```

What are the final values for

```
theta: ct: val: ans:
```


## 3 Swapping two values (5 points)

Complete the following function so that it produces the desired output.

```
function [x,y] = swap(x,y)
% This function should swap the values of two variables.
    % If you want, you can use extra variables.
```

Now assume that the above function is stored in our current working directory and it is named swap.m. On the command window if we enter the following lines,

$$
\begin{aligned}
& x=0 ; \\
& y=4 ; \\
& z=5 ; \\
& {[x, y]=\operatorname{swap}(x, y) ;} \\
& {[z, r]=\operatorname{swap}(x, z) ;} \\
& \operatorname{swap}(y, r) ;
\end{aligned}
$$

What will be the stored values for

```
x:
                    y:
                z:
                                    r:
ans:
```

