Review

1. FindRoot[function[x], {x, guess}]

2. Define a function as so: FindFunc[guess_]:=FindRoot[f[x],{x,guess}] to easily change your guess.

3. Table[f[n] , {n, {list of values}}]

ReplaceAll

```
ReplaceAll[x, {x → value}]
```

In[20]:=
```
instructions = {x → 5}
```

Out[20]=
```
{x → 5}
```

In[99]:=
```
ReplaceAll[x, {x → 5}]
```

Out[99]=
```
5
```

In[21]:=
```
ReplaceAll[x, instructions]
```

Out[21]=
```
5
```

Dealing with a list of instructions:

In[2]:=
```
list1 = {{x → 5}, {x → 6}, {x → 3}}
```

Out[2]=
```
{{x → 5}, {x → 6}, {x → 3}}
```

```
Table[f[n], {n, list}]
```

In[3]:=
```
Table[ReplaceAll[x, n], {n, list1}]
```

Out[3]=
```
{5, 6, 3}
```

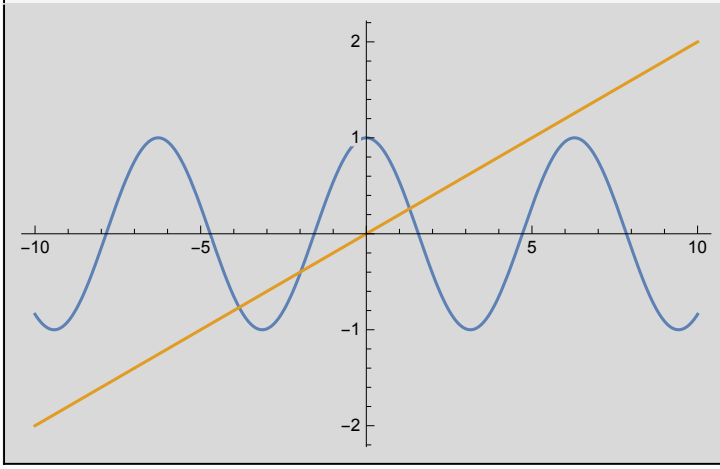
In[22]:=
```
{ReplaceAll[x, {x → 5}], ReplaceAll[x, {x → 6}], ReplaceAll[x, {x → 3}]}
```

Out[22]=
```
{5, 6, 3}
```

Application

In[12]:=
```
Plot[{Cos[x], 0.2 * x}, {x, -10, 10}]
```

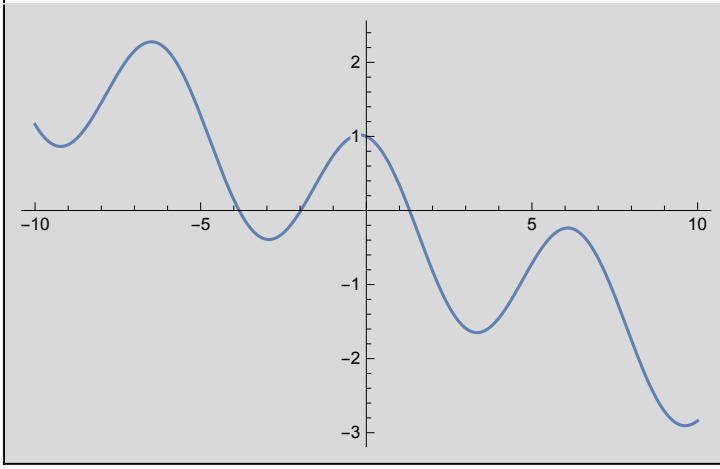
Out[12]=



In[27]:=
```
g[x_] := Cos[x] - 0.2 * x
```

In[28]:=
```
Plot[g[x], {x, -10, 10}]
```

Out[28]=



In[30]:=
```
list2 = {-4, -2, 2}
```

Out[30]=
```
{-4, -2, 2}
```

In[29]:=
```
FindFunc2[guess_] := FindRoot[g[x], {x, guess}]
```

In[31]:=
```
list3 = Table[FindFunc2[n], {n, list2}]
```

Out[31]=
```
{{x → -3.83747}, {x → -1.97738}, {x → 1.30644}}
```

In[33]:=
```
list3
```

Out[33]=
```
{{x → -3.83747}, {x → -1.97738}, {x → 1.30644}}
```

In[32]:=
```
Table[ReplaceAll[x, n], {n, list3}]
```

Out[32]=
```
{-3.83747, -1.97738, 1.30644}
```

Summary

1. change an instuction of {x->value} into a value by using:

ReplaceAll[x, {x → value}]

2. Deal with a list of replacements using:

Table[ReplaceAll[x,n], {n,list}]

3. You have come a long way since you started learning *Mathematica*. Just think what you can do now that you didn't know you could do at the beginning of last semester. Well done, and keep working away!