
Week 5 - Labelling Plots

Review

- > Text entered by selecting '+' on new line and then 'Plain text'
- > Two ways of entering text in code:
 - Hidden text using (* text *)
 - Seen text using "text "
- > assign a variable using the equals sign. e.g. variable=10.
- > Clear variable using Clear[variable]

Introduction

Constants used in Notebook:

```
m = 5(*mass of ball in kg*)  
k = 4(*spring constant in kg/s^2*)
```

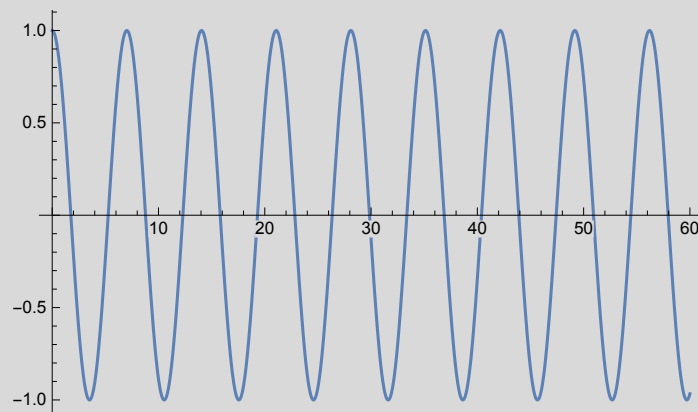
```
5
```

```
4
```

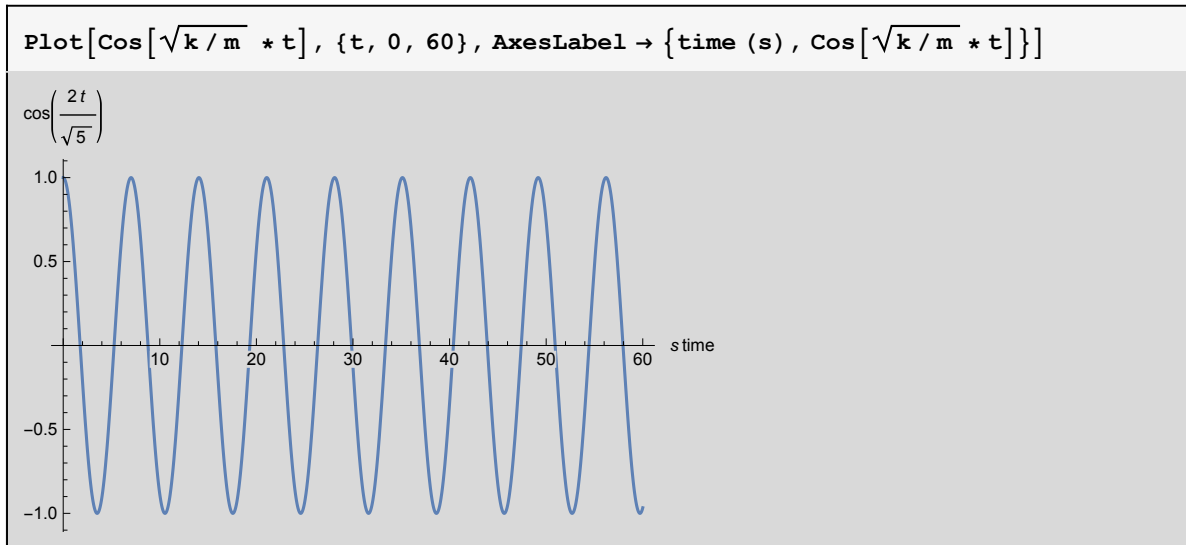
```
m = 5(*mass of ball in kg*);  
k = 4(*spring constant in kg/s^2*);
```

Below I plot a graph showing a ball of mass 5kg undergoing simple harmonic motion for a period of 60 seconds:

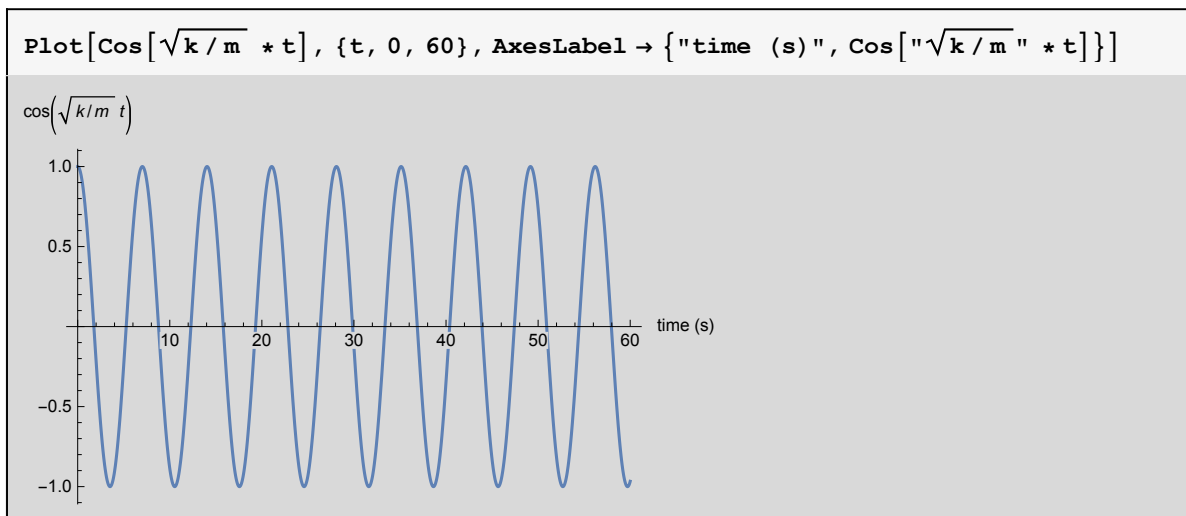
```
Plot[Cos[ $\sqrt{k/m}$  * t], {t, 0, 60}]
```



Labelling the Axes



I improved the graph by using “ ” so *Mathematica* treats m and k as constants and orders ‘time (s)’ correctly.



Summary

- > Plot[function, range, AxesLabel -> {x-axis, y-axis}]
- > We can use “ ” so that *Mathematica* interprets what we have written as text as opposed to code.
- > Most importantly, if you are spending more than the allotted time on an activity a sensible course of action is to ask for help. Knowing when to continue to tackle a problem independently and when to ask for help is an important professional skill to develop. If in doubt, ask!