HKUSTx: ELEC1200.1x A System View of Communications: From Signals to Packets (Part 1)

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Courseware (/courses/HKUSTx/ELEC1200.1x/3T2014/courseware)   Course Info (/courses/HKUSTx/ELEC1200.1x/3T2014/info)

Course Outline (/courses/HKUSTx/ELEC1200.1x/3T2014/05fb01b36df14eb99ab54545dabc47f6/)

Grading Scheme (/courses/HKUSTx/ELEC1200.1x/3T2014/6e2be4dac3e44b4d9f812e7b5a5d5a29/)

Instructors (/courses/HKUSTx/ELEC1200.1x/3T2014/674fdd6887fe4f4bb73b984df4a5675b/)

Resources (/courses/HKUSTx/ELEC1200.1x/3T2014/a6a8267fef364cccbccd0128d091f11c/)

Discussion (/courses/HKUSTx/ELEC1200.1x/3T2014/discussion/forum)

Progress (/courses/HKUSTx/ELEC1200.1x/3T2014/progress)

Help

CREATING AND CUSTOMIZING PLOTS

1:43 / 1:43   1.0x

EXAMPLE - CREATE A LINE PLOT

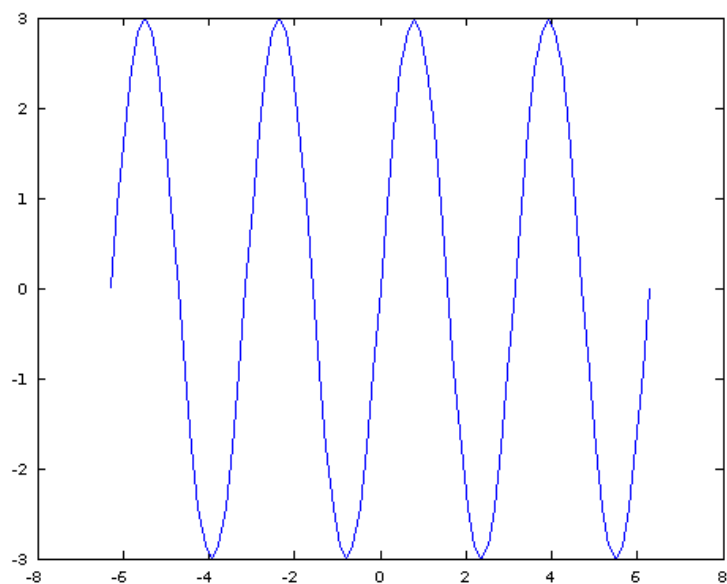Plot the function $3sin(2x)$ from -2π to 2π in steps of $\pi/20$. Do this in 3 steps.

1. Create a vector, $\boxed{x}$, that goes from -2π to 2π in steps of $\pi/20$ using the colon operator.

2. Create a vector, $\boxed{y}$, that is equal to $3sin(2x)$.

3. Use the $\boxed{\texttt{plot}}$ function to plot $\boxed{y}$ vs. $\boxed{x}$

09/26/2014 04:29 PM

```
1  x = [-2 * pi : pi/20 : 2 * pi]
2  y = 3 * sin(2*x)
3  plot(x,y)
4
```

Correct

```
x = -2*pi:pi/20:2*pi;
y = 3*sin(2*x);
plot(x, y)
```

Figure 1

x =

Columns 1 through 9

-6.2832 -6.1261 -5.9690 -5.8119 -5.6549 -5.4978 -5.3407 -5.1836 -5.0265

Columns 10 through 18

-4.8695 -4.7124 -4.5553 -4.3982 -4.2412 -4.0841 -3.9270 -3.7699 -3.6128

Columns 19 through 27

  -3.4558 -3.2987 -3.1416 -2.9845 -2.8274 -2.6704 -2.5133 -2.3562 -2.1991

Columns 28 through 36

  -2.0420 -1.8850 -1.7279 -1.5708 -1.4137 -1.2566 -1.0996 -0.9425 -0.7854

Columns 37 through 45

  -0.6283 -0.4712 -0.3142 -0.1571   0   0.1571   0.3142   0.4712   0.6283

Columns 46 through 54

   0.7854   0.9425   1.0996   1.2566   1.4137   1.5708   1.7279   1.8850   2.0420

Columns 55 through 63

   2.1991   2.3562   2.5133   2.6704   2.8274   2.9845   3.1416   3.2987   3.4558

Columns 64 through 72

   3.6128   3.7699   3.9270   4.0841   4.2412   4.3982   4.5553   4.7124   4.8695

Columns 73 through 81

   5.0265   5.1836   5.3407   5.4978   5.6549   5.8119   5.9690   6.1261   6.2832

y =

Columns 1 through 9

   0.0000   0.9271   1.7634   2.4271   2.8532   3.0000   2.8532   2.4271   1.7634

Columns 10 through 18

   0.9271 -0.0000 -0.9271 -1.7634 -2.4271 -2.8532 -3.0000 -2.8532 -2.4271

Columns 19 through 27

  -1.7634 -0.9271   0.0000   0.9271   1.7634   2.4271   2.8532   3.0000   2.8532

Columns 28 through 36

   2.4271   1.7634   0.9271 -0.0000 -0.9271 -1.7634 -2.4271 -2.8532 -3.0000

Columns 37 through 45

  -2.8532   -2.4271   -1.7634   -0.9271   0   0.9271   1.7634   2.4271   2.8532

Columns 46 through 54

   3.0000   2.8532   2.4271   1.7634   0.9271   0.0000   -0.9271   -1.7634   -2.4271

Columns 55 through 63

  -2.8532   -3.0000   -2.8532   -2.4271   -1.7634   -0.9271   -0.0000   0.9271   1.7634

Columns 64 through 72

   2.4271   2.8532   3.0000   2.8532   2.4271   1.7634   0.9271   0.0000   -0.9271

Columns 73 through 81

  -1.7634   -2.4271   -2.8532   -3.0000   -2.8532   -2.4271   -1.7634   -0.9271   -0.0000

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