
Subject: Re: solve cubic polynomial for dummies?

Posted by [wlandsman](#) on Wed, 23 Apr 2014 23:39:58 GMT

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You could use the exact formula for a cubic (e.g.

<http://idlastro.gsfc.nasa.gov/ftp/contrib/freudenreich/cuberoot.pro>) but it is probably easier to use the general root finder FZ_ROOTS in a little program like cube solve.pro below

```
coeff = [-1.94410 , 2.87770 , -2.02300 , 1.00000 ]
```

```
Y = [0.556076778, 0.459954297, 0.404784134, 0.540789788, 0.7493244, 0.814803237, 1,  
0.296016879, 0.434675619, 0.612691897]
```

```
pro cubesolve,coeff,y  
foreach val,y do begin  
  c = coeff  
  c[0] = coeff[0]-val  
  roots = fz_roots(c,/double)  
  print,roots  
endforeach  
return  
end
```

There are 3 roots to a cubic but likely you are only interested in the real root.

On Wednesday, April 23, 2014 5:26:50 PM UTC-4, mg...@students.waikato.ac.nz wrote:

> Hi all

>

>

>

> I have a cubic polynomial:

>

>

>

> '-1.9441*x^3+2.8777*x^2-2.2023*x+1'

>

>

>

> and a series of y values:

>

>

>

> Y = [0.556076778, 0.459954297, 0.404784134, 0.540789788, 0.7493244, 0.814803237, 1,
0.296016879, 0.434675619, 0.612691897]

>

>

>

> How would I solve this for x in each case?

>

>
>
> Cheers,
>
>
>
> Mat
