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/cuber oot.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
