

(*Example HOMEWORK for PHY 711

8/28/2023, Natalie Holzwarth

Problem Set 0

The purpose of this problem set is to become familiar with the use of Maple, Mathematica, or Wolfram Alpha as a tool for analyzing

mathematically complex problems. Choose one of the tools to visualize and solve the following problems.

1. Numerically find the values of x which satisfy the following equation.

$x^3 - x^2 = 7$. Use graphics to help visualize the problem.

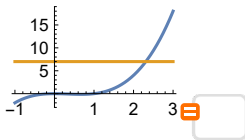
$\int_0^x e^{-s^2} ds$. Use graphics to help

you visualize the integrand and the integral. *)

$x^3 -$

2. $g(x) =$

```
In[ ]:= Plot[{x^3 - x^2, 7}, {x, -1, 3}]
```



```
In[ ]:= NSolve[x^3 - x^2 == 7, x]
```

Out[]:=

```
{{x -> -0.655426 - 1.61233 i}, {x -> -0.655426 + 1.61233 i}, {x -> 2.31085}}
```

```
Integrate[Exp[-s^2], {s, 0, x}]
```

Out[]:=

```
{{(1/2) Sqrt[Pi] Erf[x]}, {}}
```

In[]:=

```
Plot[{Exp[-u^2], (1/2) Sqrt[Pi] Erf[u]}, {u, 0, 5}]
```

Out[]:=

