```
(* this is a test of the TFCheck package *)
Clear["Global`*"]

Needs["PackageDev`TFCheck`"];
Needs["PackageDev`TFBode`"];
Needs["PackageDev`TFRoot`"];
Needs["PackageDev`TFrecord`"];
Needs["PackageDev`TFStep`"];
```

Needs: Context PackageDev`TFCheck` was not created when Needs was evaluated.

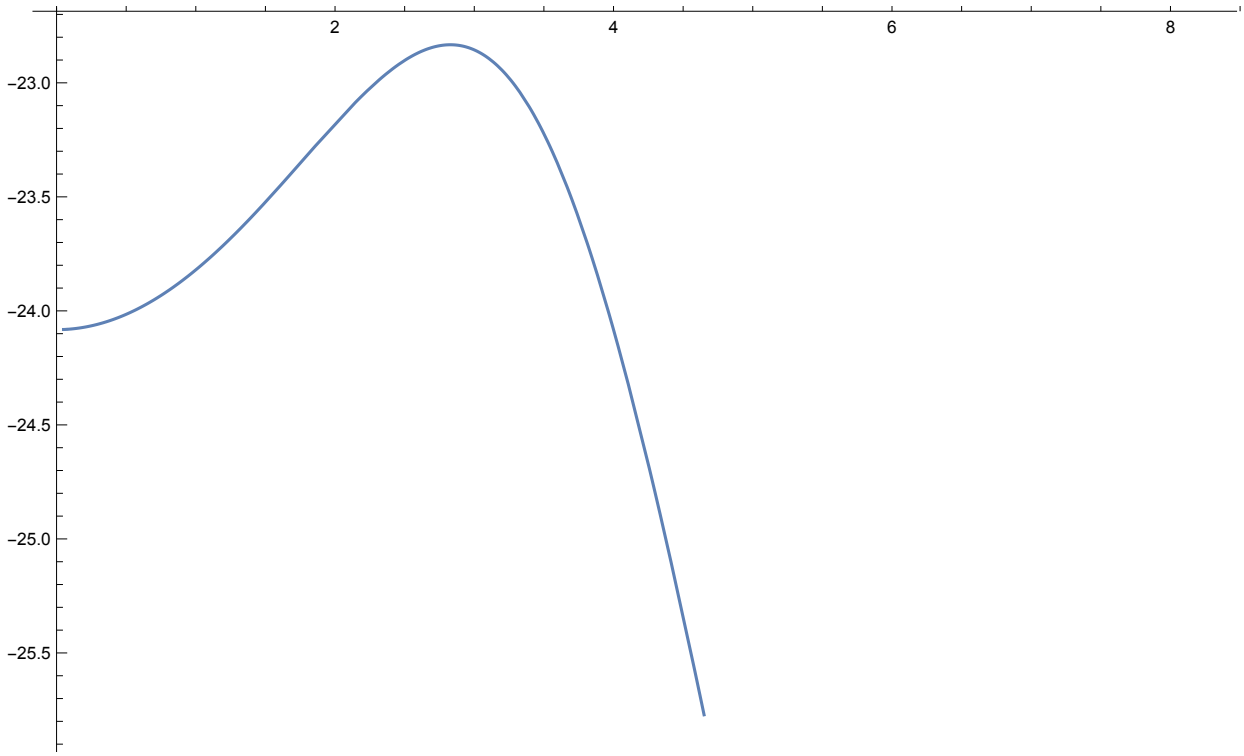
Needs: Context PackageDev`TFBode` was not created when Needs was evaluated.

Needs: Context PackageDev`TFBode` was not created when Needs was evaluated.

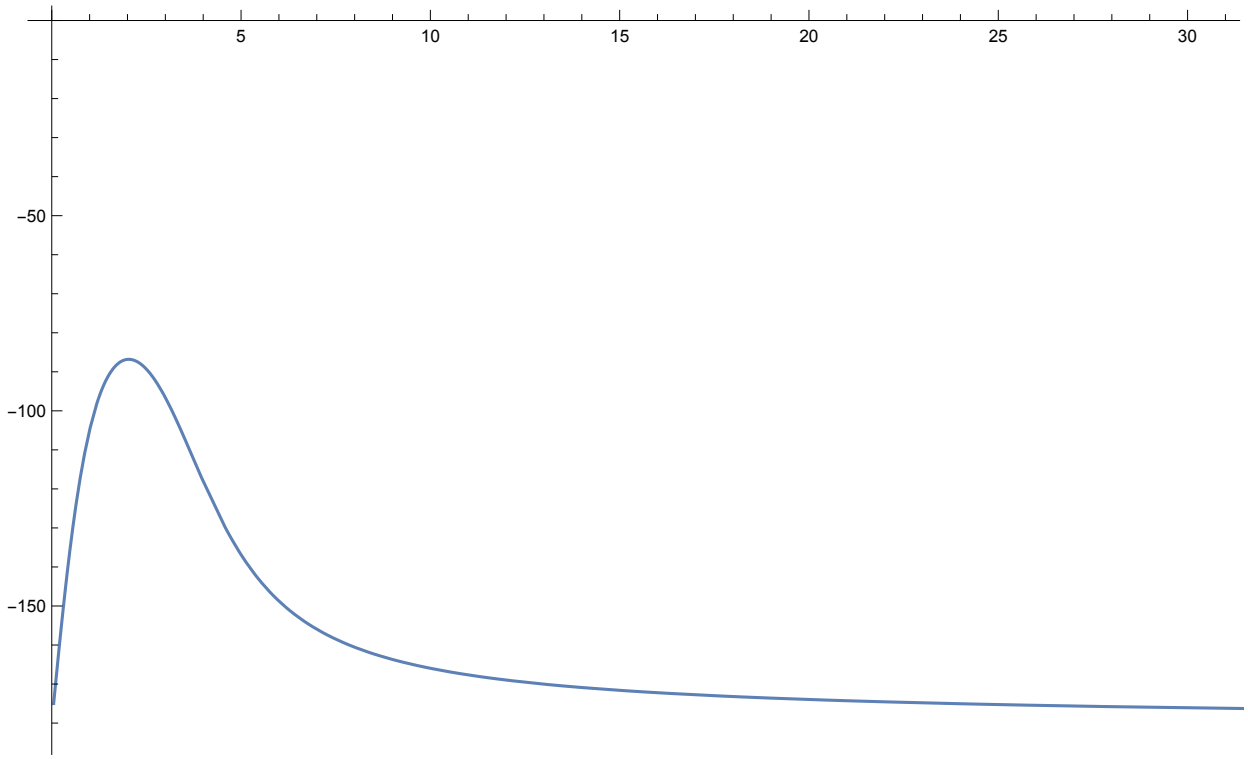
Needs: Context PackageDev`TFCheck` was not created when Needs was evaluated.

```
(*TFRecord`recordFreqBode[{Denominator Coeff.},{Numerator Coeff.}]*)
bode = TFrecord`recordBode[{1, 1}, {1, 3, 12, -16}];

(*TFRecord`recordRoot[{Numerator},{Denominator},K_Lower,K_Upper]*)
root = TFrecord`recordRoot[{1, 1}, {1, 3, 12, -16}, 0, 80];

(*TFRecord`recordStep[{Denominator},{Numerator},t_Lower,t_Upper]*)
(*Using step response currently, but can vary to any function desired*)
step = TFrecord`recordStep[{1, 1}, {1, 3, 12, -16}, 0, 10];
```

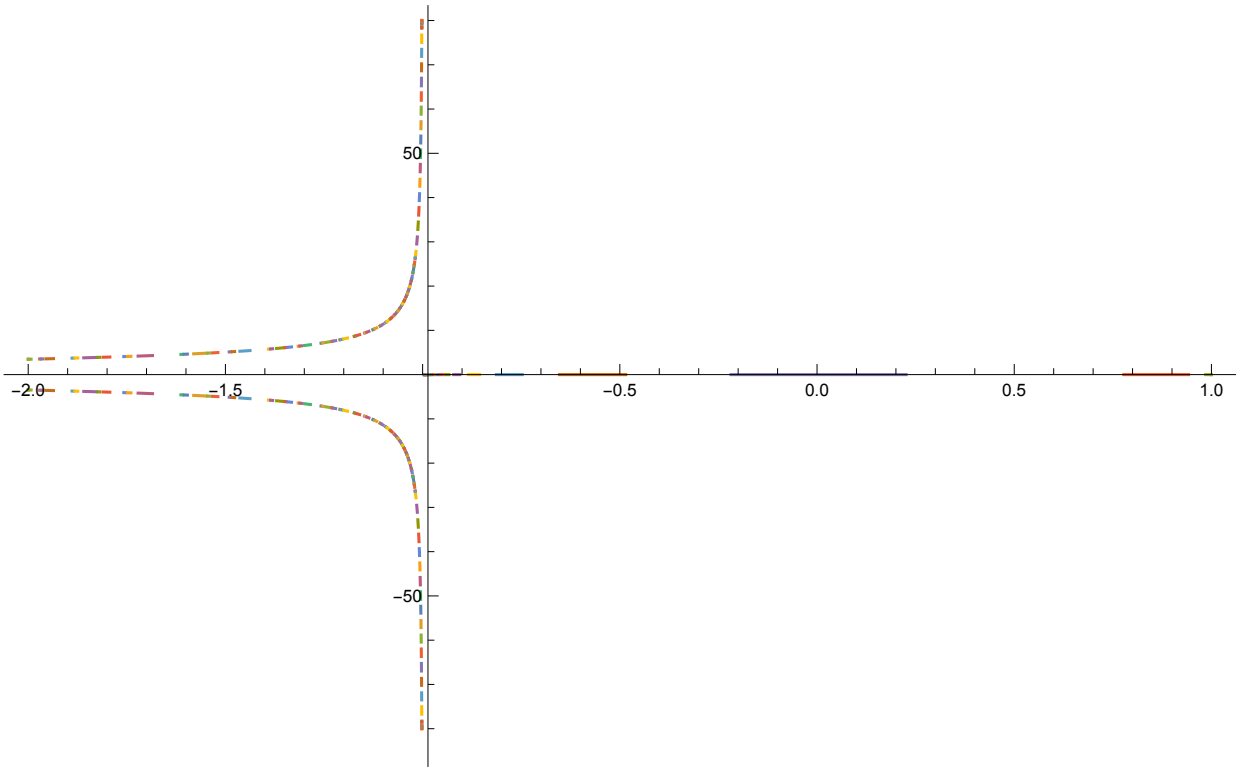
```
(*Bode Plot - Frequency*)
ListLinePlot[bode[[1]], ImageSize → Full]
```



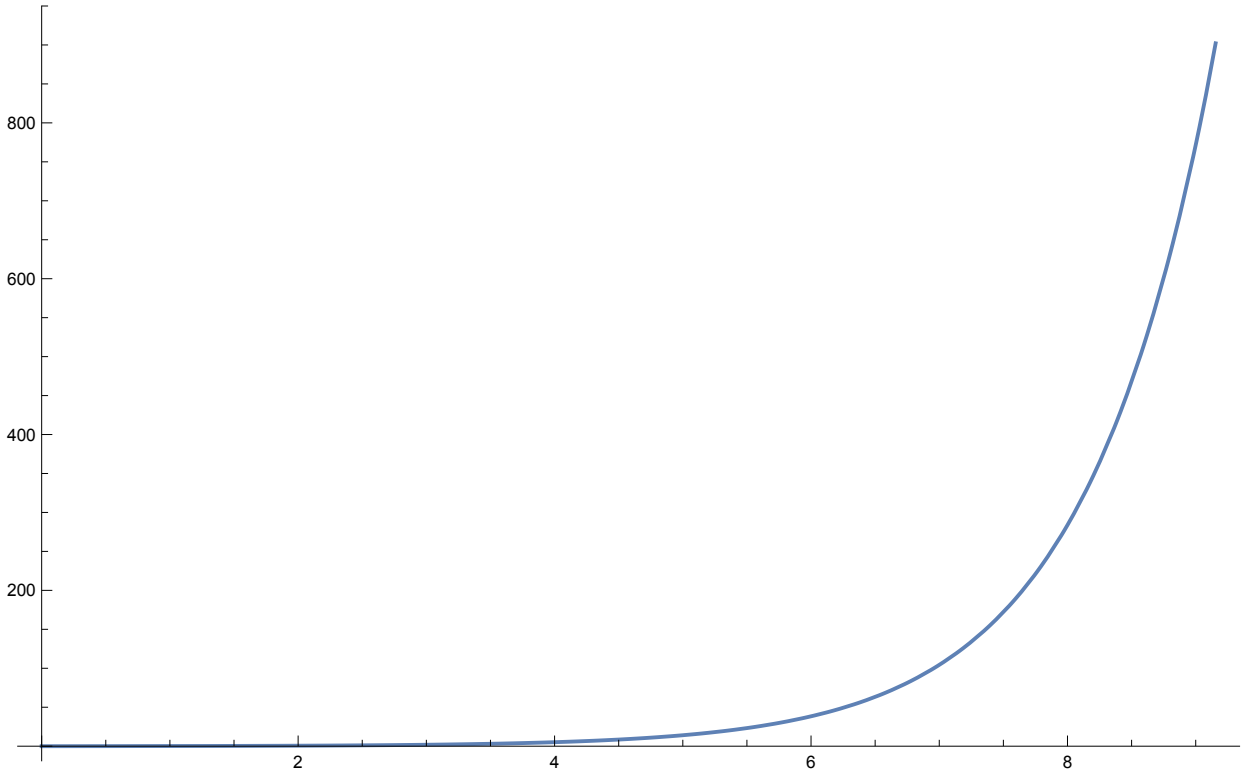
```
(*Bode Plot - Phase*)
ListLinePlot[bode[[2]], ImageSize → Full]
```



```
(*Root Locus Plot*)
(*Must review the refomulation of the function
 to match the matlab convention with professor*)
Show[Table[ListLinePlot[root[[i]]], {i, 1, Length[root]}], PlotRange -> All,
 ImageSize → Full, MaxPlotPoints → Infinity, PlotStyle → Thick]
```



```
ListLinePlot[Flatten[step, 1], PlotRange -> All,
 ImageSize → Full, MaxPlotPoints → Infinity, PlotStyle → Thick]
```




```
(*Master Data List*)

TFrecord`recordDataList[Global`recordTotal,
 Global`rootPlotHolder, Global`stepPlotHolder]
```

```
{{0.05, -24.0817}, {0.0501133, -24.0817}, {0.0502268, -24.0817},
 {0.0504546, -24.0817}, ··· 1859 ···, {9.00486, 775.416},
 {9.02964, 794.875}, {9.0792, 835.269}, {9.15532, 902.108}}
```

```
(*Bode Key*)
TFrecord`recordKeyBode[Global`recordTotal]
```

```
{459, 340}
```

```
(*Root Key*)

TFrecord`recordKeyRoot[Global`rootPlotHolder]
```

```
{124, 124, 38, 26, 26, 26}
```

```
(*Step Key*)
TFrecord`recordKeyStep[Global`stepPlotHolder]
```

{340}