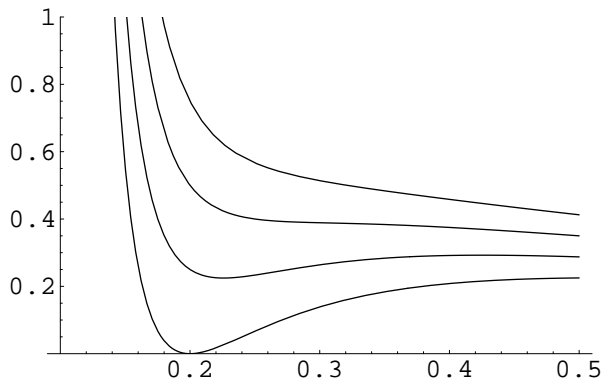


```
In[1]:= (* Van der Waals model *)
(* ----- *)
a = 0.1;
b = 0.1;
n = 1;
```

```
In[4]:= (* equation of state *)
(* ----- *)
p[t_, v_] := n*t / (v - n*b) - a*n^2 / v^2
```

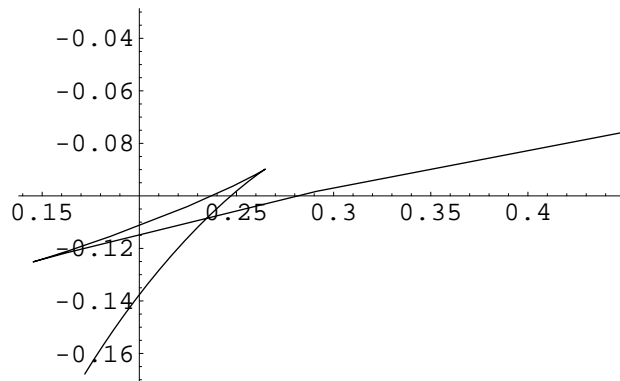
```
In[5]:= Plot[{p[0.325, x], p[0.3, x], p[0.275, x], p[0.25, x]}, {x, 0.1, 0.5}, PlotRange -> {0, 1}]
```



```
Out[5]= - Graphics -
```

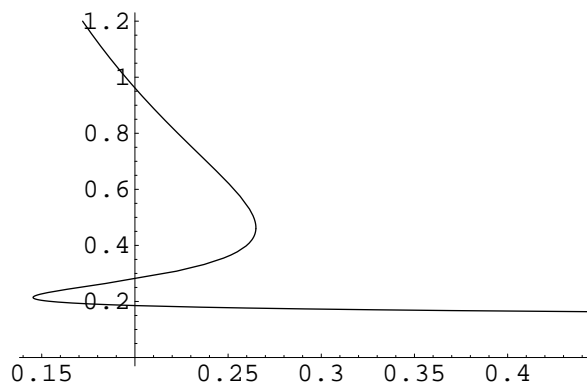
```
In[6]:= (* Gibbs Free Energy *)
(* ----- *)
g[t_, v_] := -n*t*Log[v - n*b] + n^2*t*b / (v - n*b) - 2*a*n^2 / v
```

```
In[7]:= tt = 0.9*0.295;
ParametricPlot[{p[tt, x], g[tt, x]}, {x, 0.13, 1.2}]
```



```
Out[8]= - Graphics -
```

```
In[9]:= ParametricPlot[{p[tt, x], x}, {x, 0.13, 1.2}]
```



```
Out[9]= - Graphics -
```