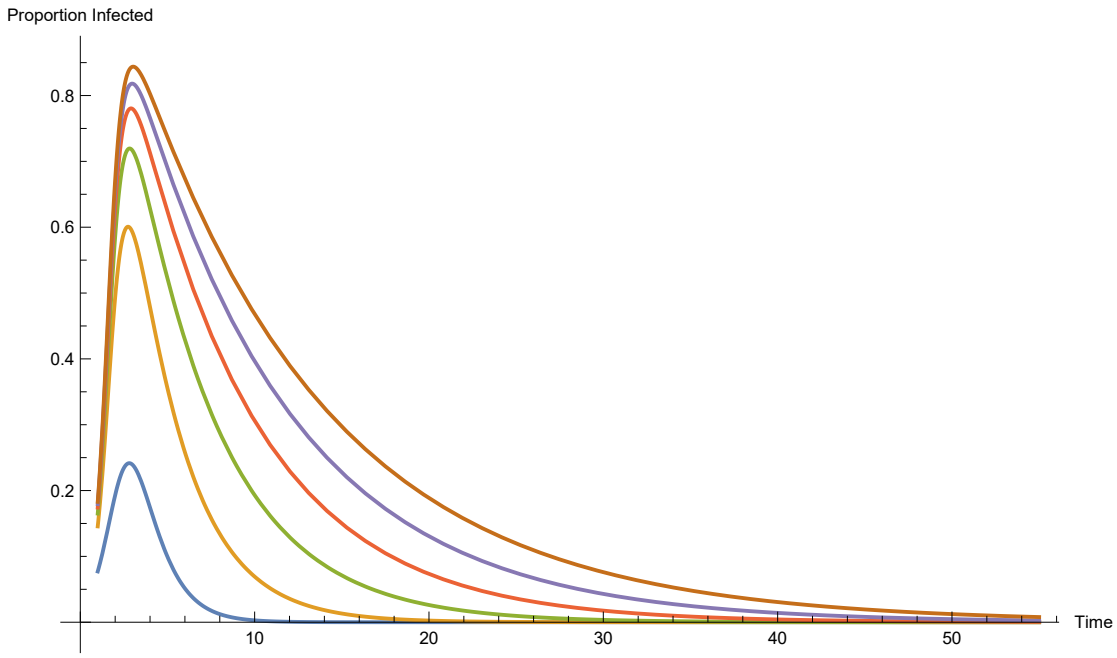
Standard SIR Model

```
In[•]:= eq[β_, l_, i0_] := NDSolve[{s'[t] == -β s[t] × i[t],
          i'[t] == β s[t] × i[t] - i[t]/l,
          r'[t] == i[t]/l,
          s[0] == 1 - i0,
          i[0] == i0,
          r[0] == 0
         }, {s, i, r}, {t, 0, 250}]

In[•]:= Plot[Evaluate[Table[i[τ] /. eq[2.5, β, 0.02], {β, 1, 11, 2}]],
         {τ, 1, 55}, PlotRange → All, AxesLabel → {"Time", "Proportion Infected"},
         ImageSize → Large]
```

Out[•]=



In[•]:=
```
Plot[Evaluate[Table[i[τ] /. eq[l, 3, 0.02], {l, .5, 6, .5}]],
 {τ, 1, 55}, PlotRange → All, AxesLabel → {"Time", "Proportion Infected"},
 ImageSize → Large]
```

Out[•]=