

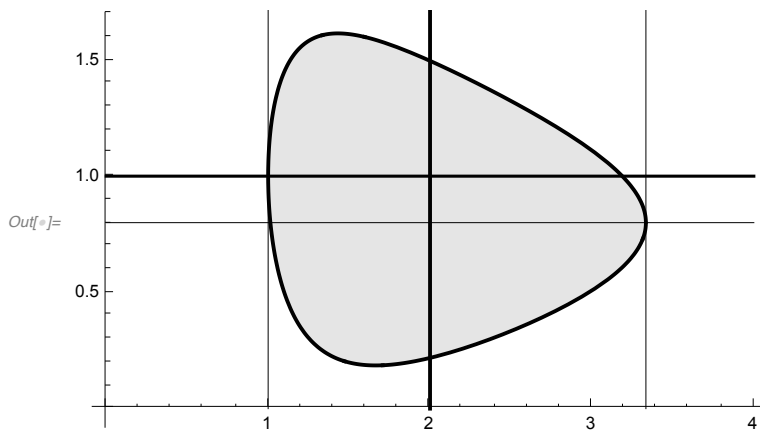
Parameter range

$$\text{In[*]:= ResmFn}[p_, d_] := \left\{ \frac{2 \left(2 + \sqrt{-d (2+d)^2 (d (-2+p) - 2p) (-1+p)} \right) + d^2 p + 2 d (1+p)}{(2+d)^2 p}, \right. \\ \left. \frac{4 + 2 d - 2 \sqrt{-d (2+d)^2 (d (-2+p) - 2p) (-1+p)} + 2 d p + d^2 p}{(2+d)^2 p} \right\}$$

```
In[*]:= Pm[d_, pmax_] := Plot[{1, ResmFn[p, d][[1]], ResmFn[p, d][[2]]}, {p, 0, pmax},
  AxesOrigin -> {0, 0}, PlotStyle -> {Black, {Black, Thick}, {Black, Thick}},
  Filling -> {2 -> {3}}, FillingStyle -> GrayLevel[0.9]]
```

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In[*]:=
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Show[Pm[5, 4], ListLinePlot[{{2, 0}, {2, 1.75}}, PlotStyle -> {Black, Thick}],
  ListLinePlot[{{1, 0}, {1, 1.75}}, PlotStyle -> {Black, Thin}],
  ListLinePlot[{{10/3, 0}, {10/3, 1.75}}, PlotStyle -> {Black, Thin}],
  ListLinePlot[{{0, 4/5}, {4, 4/5}}, PlotStyle -> {Black, Thin}]]
```

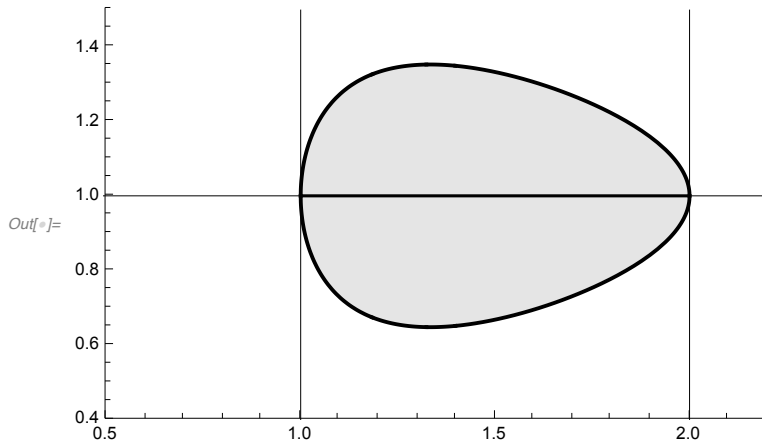


$$\text{In[*]:= ResmFnG}[p_] := \left\{ \frac{p - \sqrt{(p-1)(2-p)}}{p}, \frac{p + \sqrt{(p-1)(2-p)}}{p} \right\}$$

```

In[ ]:= Show[
  Plot[{1, ResmFnG[p][[1]], ResmFnG[p][[2]]}, {p, 1, 2}, AxesOrigin -> {0.5, 0.4},
    PlotStyle -> {Black, {Black, Thick}, {Black, Thick}}, Filling -> {2 -> {3}},
    FillingStyle -> GrayLevel[0.9], PlotRange -> {{0.5, 2.2}, {0.4, 1.5}},
    ListLinePlot[{{1, 0}, {1, 1.5}}, PlotStyle -> {Black, Thin}],
    ListLinePlot[{{2, 0}, {2, 1.5}}, PlotStyle -> {Black, Thin}],
    ListLinePlot[{{0, 1}, {2.2, 1}}, PlotStyle -> {Black, Thin}]
]

```



```

In[ ]:= ResmFnH[p_] := {
   $\frac{1 - \sqrt{(p-1)(2-p)}}{1 - (p-1)(2-p)}$ ,  $\frac{1 + \sqrt{(p-1)(2-p)}}{1 - (p-1)(2-p)}$ 
}

```

```

In[ ]:= Show[
  Plot[{1, ResmFnH[p][[1]], ResmFnH[p][[2]]}, {p, 1, 2}, AxesOrigin -> {0.5, 0.5},
    PlotStyle -> {Black, {Black, Thick}, {Black, Thick}}, Filling -> {2 -> {3}},
    FillingStyle -> GrayLevel[0.9], PlotRange -> {{0.5, 2.2}, {0.5, 2.2}},
    ListLinePlot[{{1, 0}, {1, 2.2}}, PlotStyle -> {Black, Thin}],
    ListLinePlot[{{2, 0}, {2, 2.2}}, PlotStyle -> {Black, Thin}],
    ListLinePlot[{{0, 1}, {2.2, 1}}, PlotStyle -> {Black, Thin}]
]

```

