```
> restart
> P[D, h] := p = 40 - q
> P[S, h] := p = 10 + q
```

$$P_{D,\,h} := p = 40 - q$$

$$P_{S,\,h} := p = 10 + q \qquad (1$$

```
> eqm[q, h] := solve(P[D, h]-P[S, h], {q})
```

$$eqm_{q,\,h} := \{q = 15\} \qquad (2$$

```
> subs(P[D, h], p)
```

$$40 - q \qquad (3$$

```
> subs({q = 15}, %)
```

$$25 \qquad (4$$

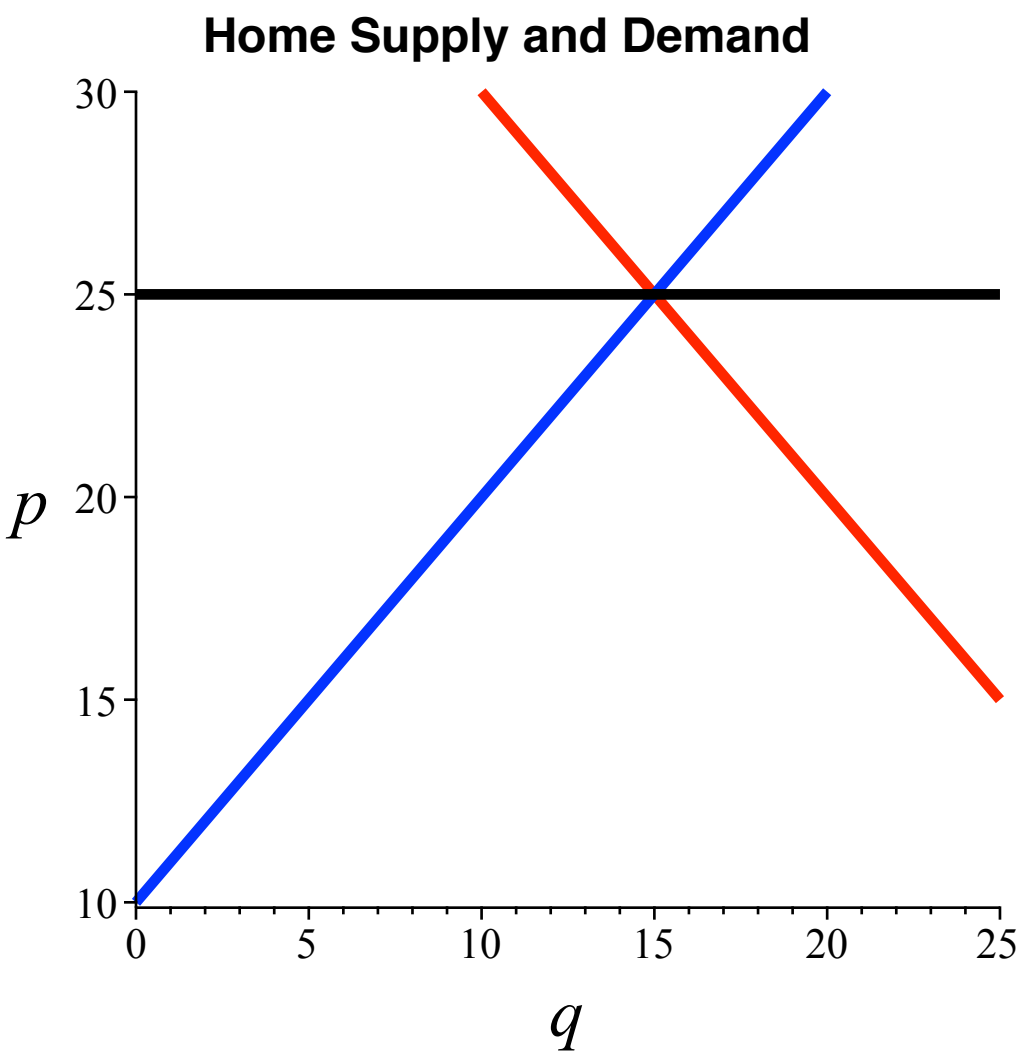
```
>
> eqm[p, h] := p = subs(P[D, h], eqm[q, h], p)
```

$$eqm_{p,\,h} := p = 25 \qquad (5$$

```
>
> ColorTools:-GetPalette("HTML") :
> pstuff := thickness = 4, tickmarks = [default, [seq(i·5, i = 0 ..8)]], titlefont = [Helvetica, Bold, 14], labelfont = ["ROMAN", 20]
```

$$pstuff := thickness = 4,\ tickmarks = [default,\ [0, 5, 10, 15, 20, 25, 30, 35, 40]],\ titlefont = [Helvetica, Bold, 14],\ labelfont = [\text{"ROMAN"}, 20] \qquad (6$$

```
> P_h := plots[implicitplot]([P[D, h], P[S, h], eqm[p, h]], q = 0 ..25, p = 10 ..30, color = [red, blue, black], pstuff, title
      = "Home Supply and Demand")
```



> $P[\mathrm{D}, f] := p = 30 - q$
> $P[S, f] := p = q$

$$P_{\mathrm{D},f} := p = 30 - q$$

$$P_{S,f} := p = q \tag{7}$$

> $eqm[q, f] := solve(P[\mathrm{D}, h] - P[S, h], \{q\})$

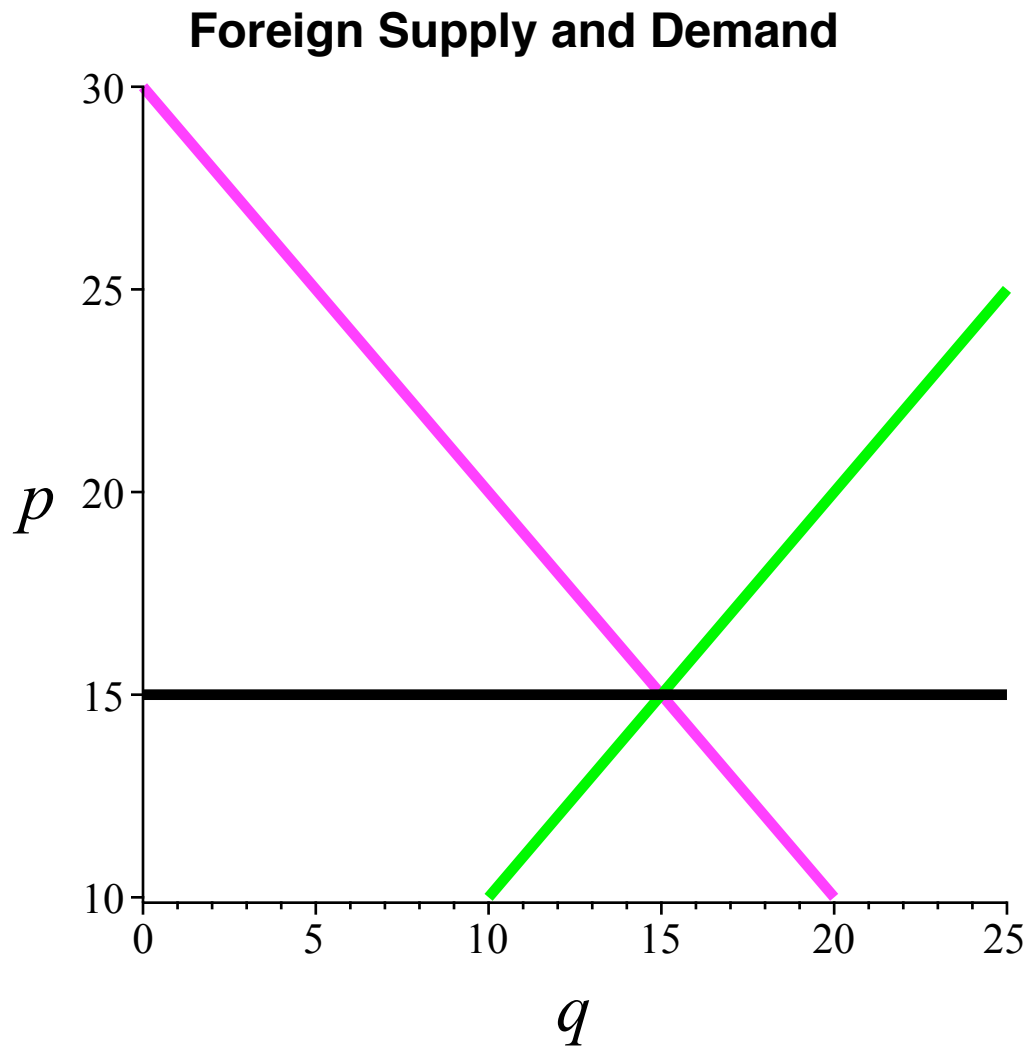
(8

$$eqm_{q,f} := \{q = 15\} \quad (8$$

> $eqm[p,f] := p = subs(P[\mathrm{D},f], eqm[q,f], p)$

$$eqm_{p,f} := p = 15 \quad (9$$

> $P\_f := plots[implicitplot]([P[\mathrm{D},f], P[S,f], eqm[p,f]], q = 0..25, p = 10..30, color = [magenta, green, black], pstuff, title = \text{"Foreign Supply and Demand"})$



> $ImportDemand := q = solve(P[\mathrm{D}, h], q) - solve(P[S, h], q)$

$$ImportDemand := q = 50 - 2\,p \quad (10$$

>

> $ExportSupply := q = solve(P[S, f], q) - solve(P[\mathrm{D}, f], q)$

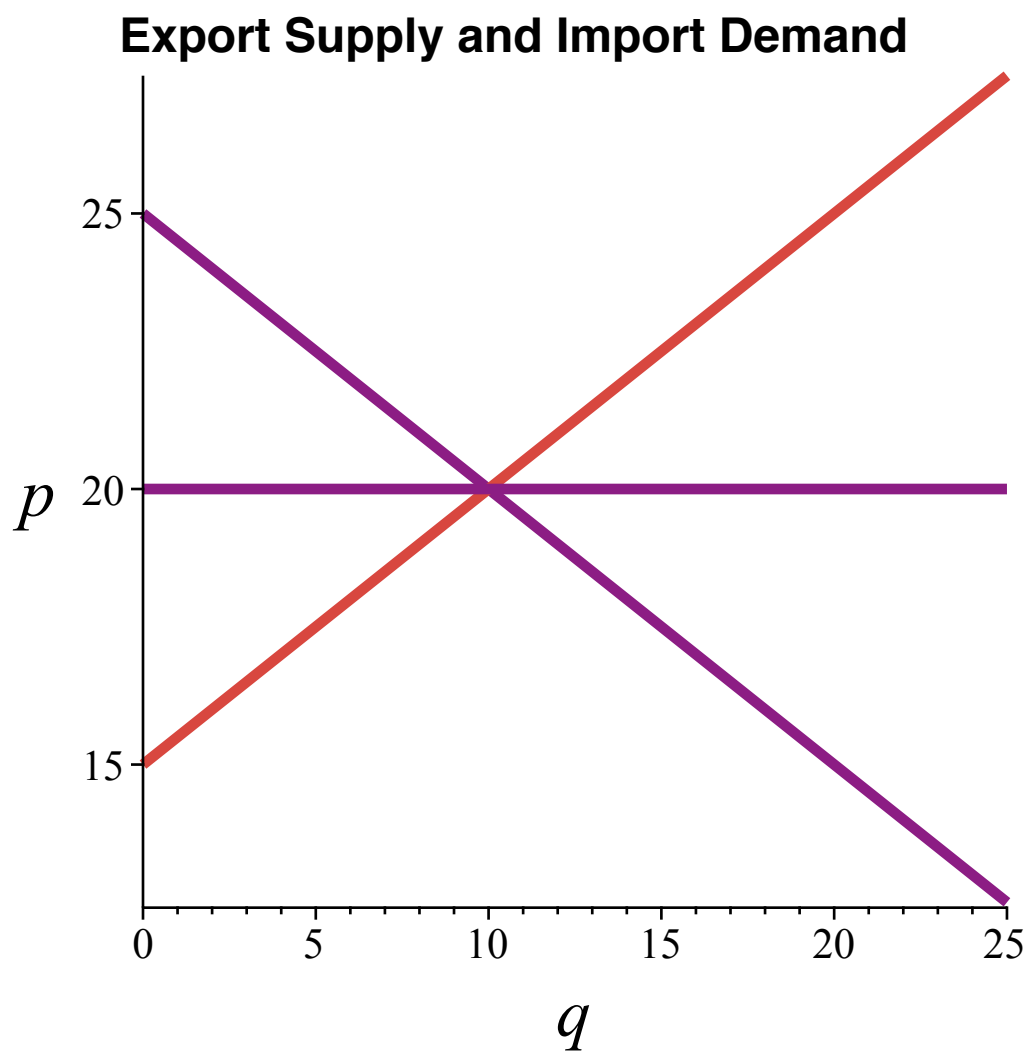
$$ExportSupply := q = 2\,p - 30 \quad (11$$

> $eqm[ExIm] := p = solve(ImportDemand - ExportSupply, p)$

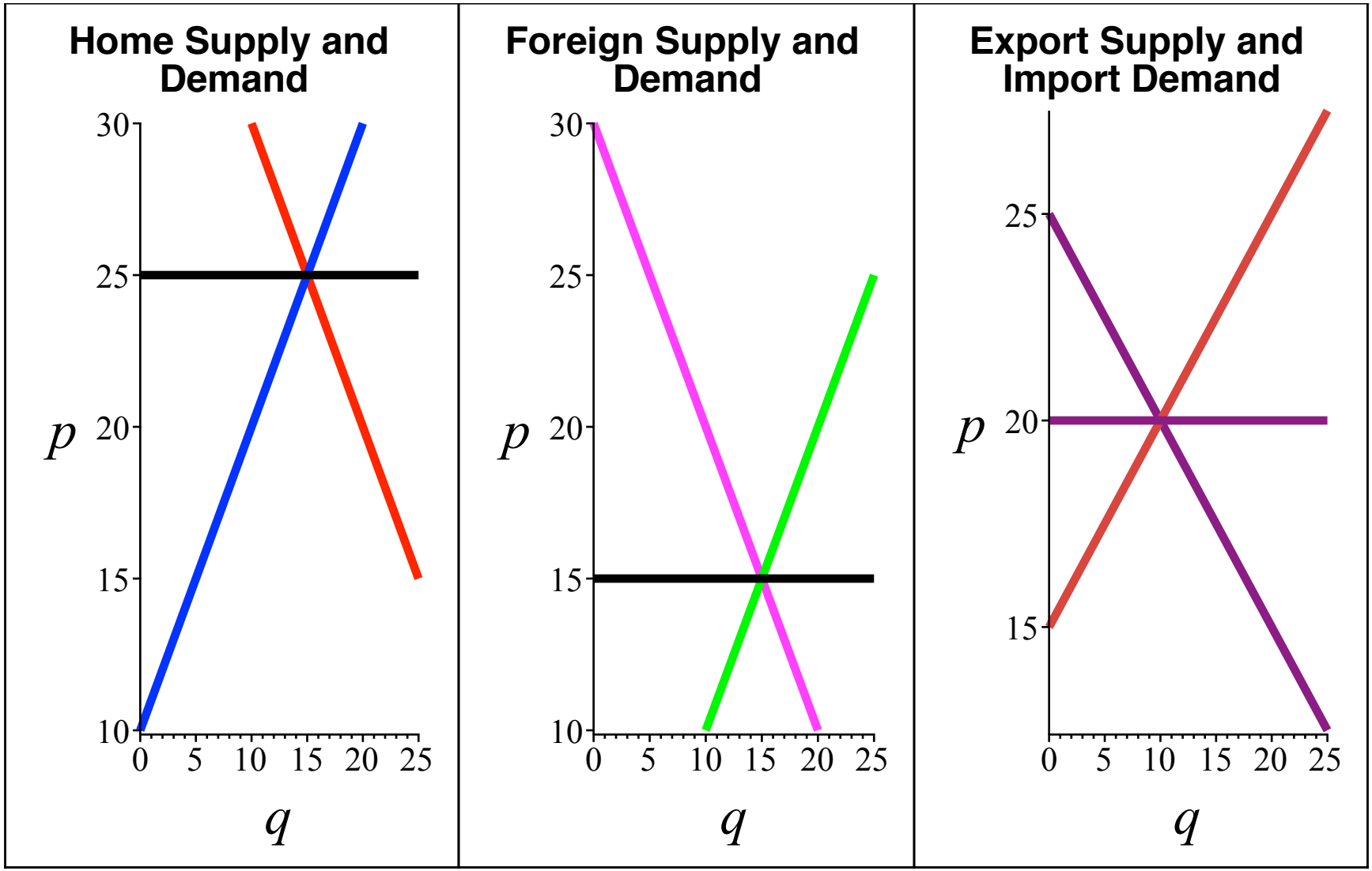
$$eqm_{ExIm} := p = 20 \quad (12$$

>

> $P\_ExIm := plots[implicitplot]([ImportDemand, ExportSupply, eqm[ExIm]], q = 0..25, p = 10..30, color = [purple, orange], pstuff, title = \text{"Export Supply and Import Demand"}, tickmarks = [default, [10, 15, 20, 25, 30]])$




```
> Ptest := Array(1 ..1, 1 ..3, [P_h, P_f, P_ExIm]) :
> plots[display](Ptest)
```




```
>
> tau := 6
```

$$\tau := 6 \tag{13}$$

```
> ImportDemand - ExportSupply
```

$$0 = 80 - 4\,p \tag{14}$$

```
> subs(p = p_h, ImportDemand)
```

$$q = 50 - 2\,p\_h \tag{15}$$

```
> subs(p = p_f, ExportSupply)
```

$$q = 2\,p\_f - 30 \tag{16}$$

```
> subs(p = p_h, ImportDemand) - subs(p = p_f, ExportSupply)
```

$$0 = 80 - 2\,p\_h - 2\,p\_f \tag{17}$$

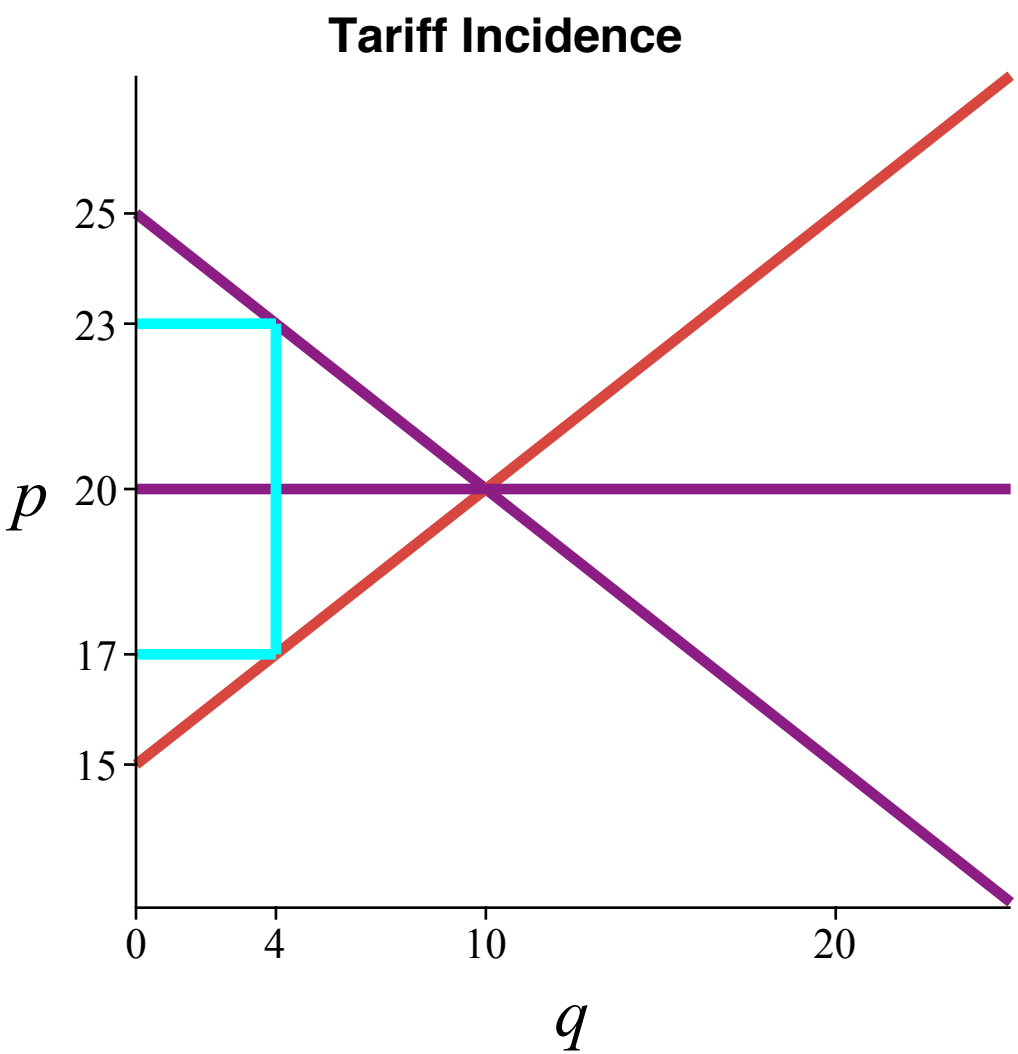
```
> subs(p_h = p_f + tau, %)
```

$$0 = 68 - 4\,p\_f \tag{18}$$

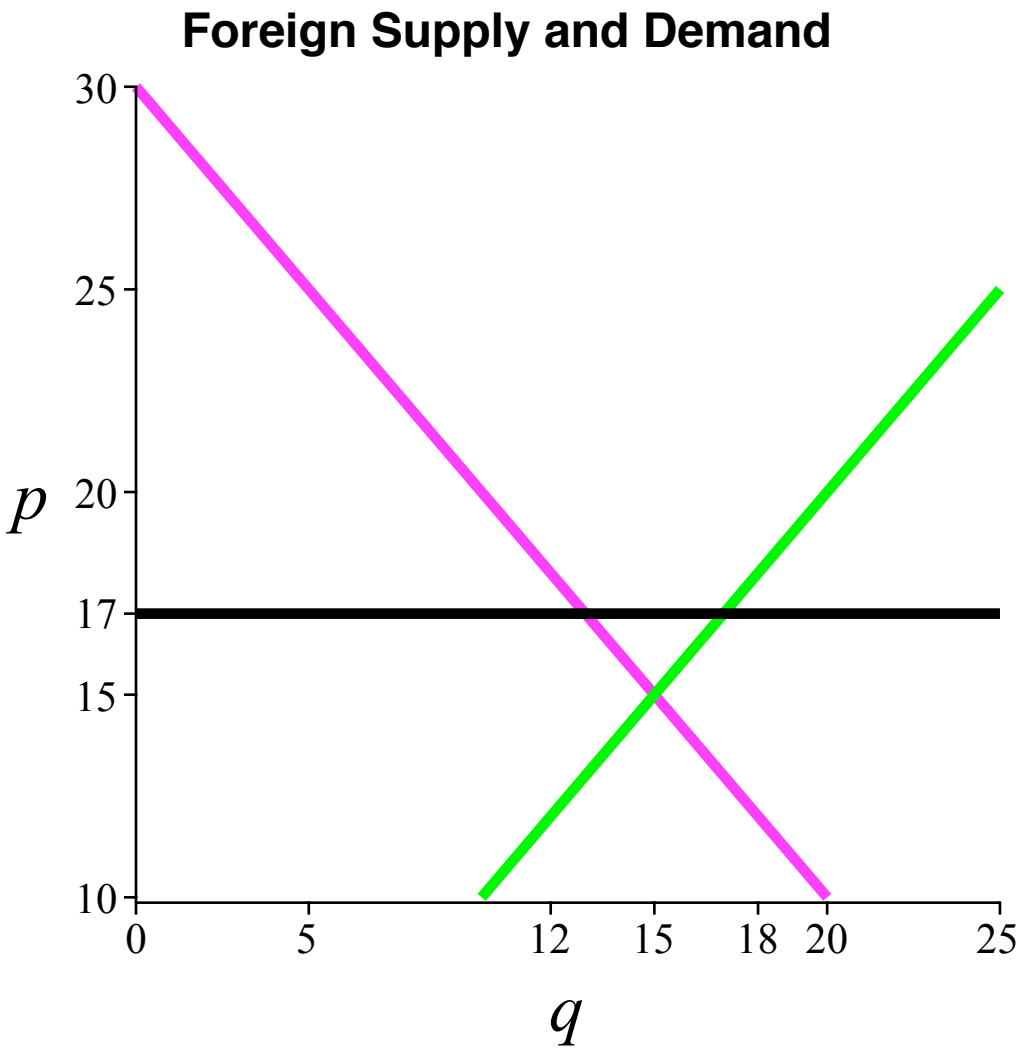
```
> eqm[ExIm, tariff] := p_f = solve(%, p_f)
```

$$eqm_{ExIm,\ tariff} := p\_f = 17 \tag{19}$$

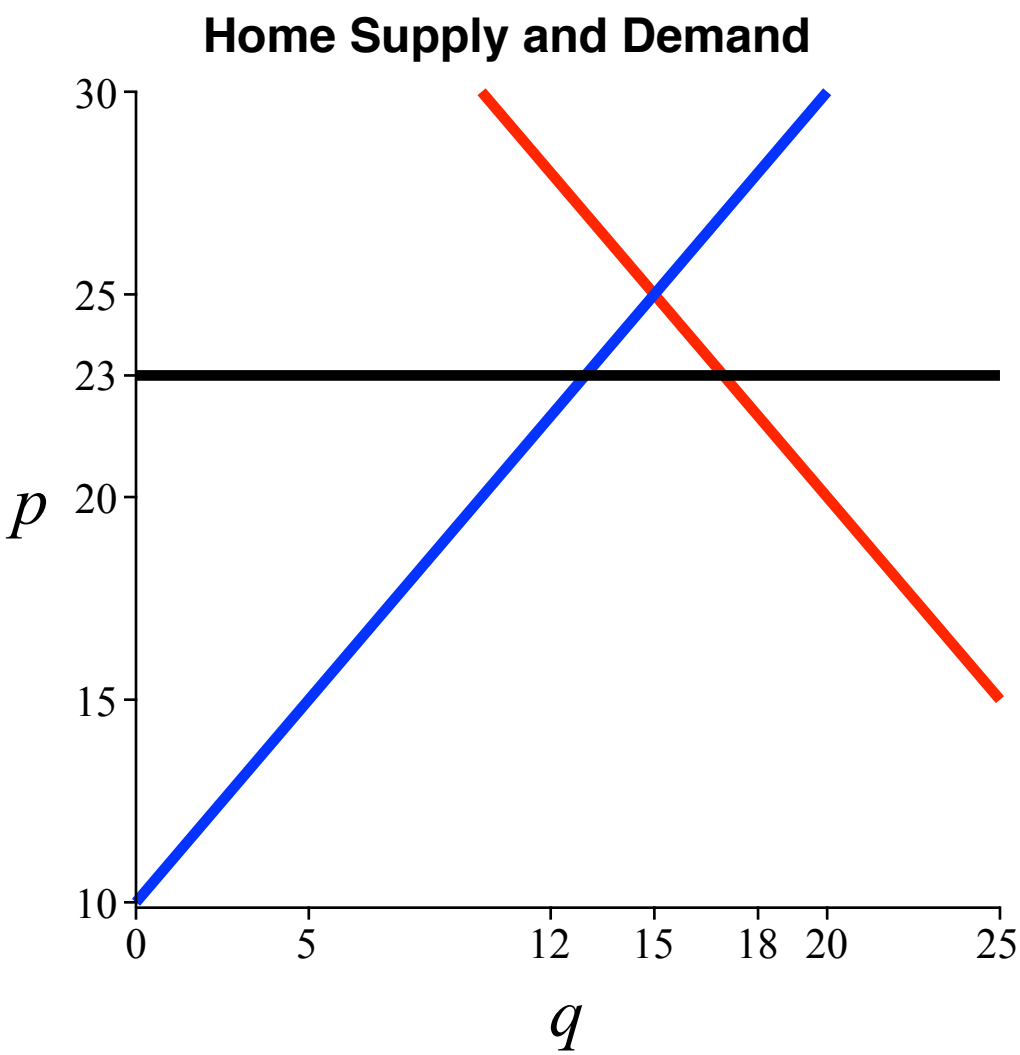
```
> P_tariff := plots[implicitplot]([p_f = 17 + tau, eqm[ExIm, tariff], subs(p = p_f, eqm[ExIm, tariff], ExportSupply)], q = 0..4, p_f
    = 17..23, pstuff, color = cyan) :
> P_incid := plots[display](P_ExIm, P_tariff, tickmarks = [[0, 4, 10, 20, 30], [10, 15, 17, 20, 23, 25, 30]], title = "Tariff Incidence")
```



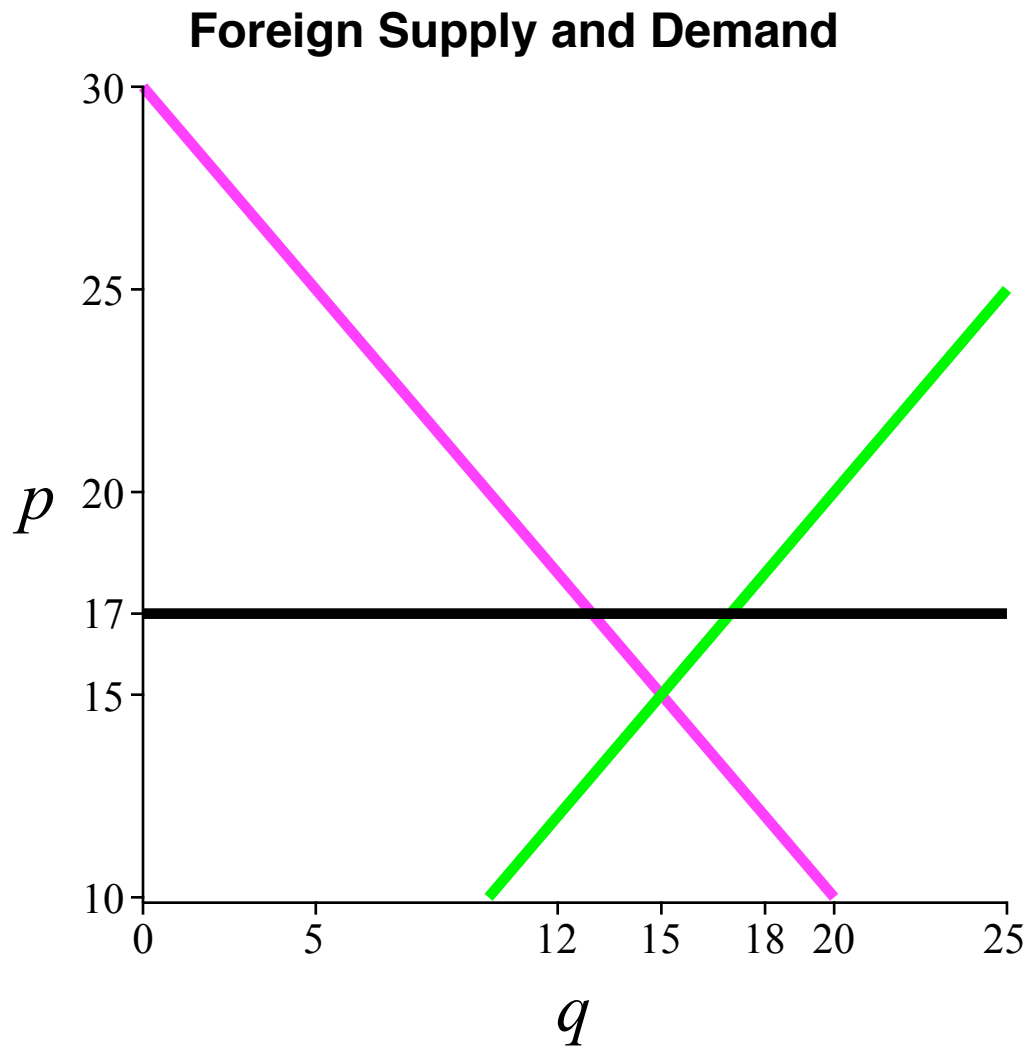

```
>
> P_ft := plots[implicitplot]([P[D,f], P[S,f], p = 17], q = 0..25, p = 10..40, color = [magenta, green, black], pstuff, title
      = "Foreign Supply and Demand" , tickmarks = [[0, 5, 12, 15, 18, 20, 25, 30], [0, 5, 10, 15, 17, 20, 25, 30]])
```



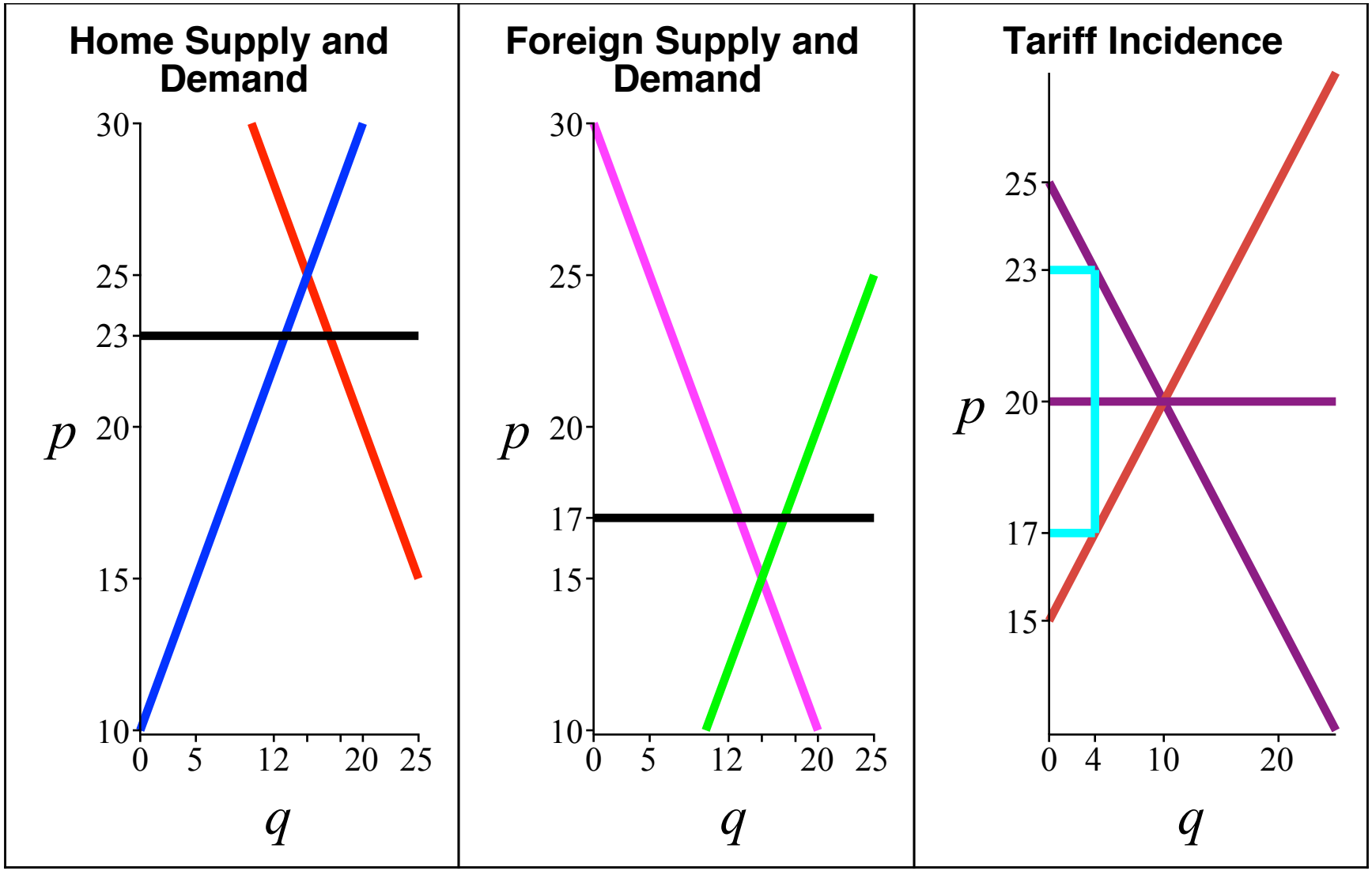
> $P\_ht := plots[implicitplot]([P[D, h], P[S, h], p = 23], q = 0..25, p = 0..30, color = [red, blue, black], pstuff, title = \text{"Home Supply and Demand"}, tickmarks = [[0, 5, 12, 15, 18, 20, 25, 30], [0, 5, 10, 15, 20, 23, 25, 30, 40]])$




```
> plots[display](P_ft)
```




```
> Ptest2 := Array(1 ..1, 1 ..3, [P_ht, P_ft, P_incid ]) :
> plots[display](Ptest2)
```




```
>
>
```

Home consumers pay 23
Home producers receive 23
Excess demand is imported

Foreign consumers pay 17
Foreign producers receive 17
Excess supply is exported

```
>
>
```