```
% Block Diagram Reduction
G1 = tf([1], [1 10])
G2 = tf([1], [1 1])
G3 = tf([1 0 1], [1 4 4])
G4 = tf([1 1], [1 6])
H1 = tf([1 1], [1 2])
H2 = tf([2], [1])
H3 = tf([1], [1])

H2 = H2/G4
sys = feedback(series(G3,G4), H1, +1)
sys = feedback(series(G2, sys), H2, -1)
sys = feedback(series(G1, sys), H3, -1)
```

```
G1 =

    1
  ------
  s + 10

Continuous-time transfer function.


G2 =

    1
  -----
  s + 1

Continuous-time transfer function.


G3 =

     s^2 + 1
  ------------
  s^2 + 4 s + 4

Continuous-time transfer function.


G4 =

  s + 1
  -----
  s + 6

Continuous-time transfer function.


H1 =
```

```
  s + 1
 -----
 s + 2

Continucus-time transfer function.


H2 =

  2

Static gain.


H1 =

  1

Static gain.


H2 =

  2 s + 12
 --------
  s + 1

Continucus-time transfer function.


sys =

  s^4 + 3 s^3 + 3 s^2 + 3 s + 2
 -----------------------------
  10 s^3 + 66 s^2 + 78 s + 47

Continucus-time transfer function.


sys =

       s^5 + 4 s^4 + 6 s^3 + 6 s^2 + 5 s + 2
 -----------------------------------------------
 12 s^5 + 84 s^4 + 222 s^3 + 291 s^2 + 212 s + 71

Continucus-time transfer function.


sys =

                s^5 + 4 s^4 + 6 s^3 + 6 s^2 + 5 s + 2
 ------------------------------------------------------------------
 12 s^6 + 205 s^5 + 1066 s^4 + 2517 s^3 + 3128 s^2 + 2196 s + 712
```