

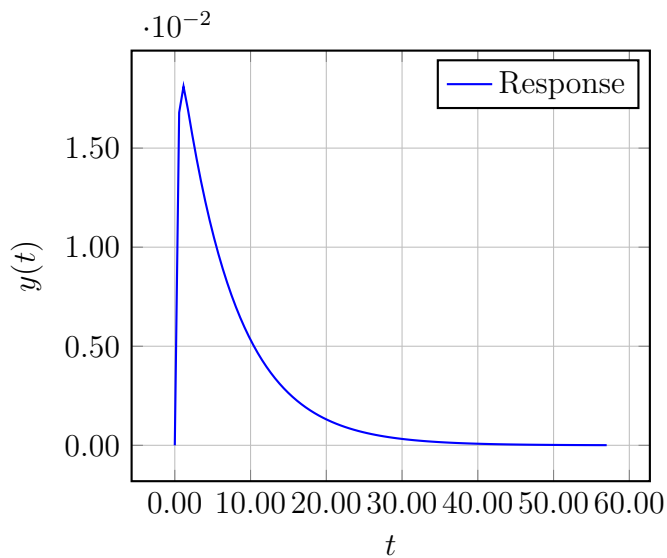
1. (50 points) An open-loop transfer function is given as,

$$G(s) = \frac{1}{s^3 + 2.0s^2 + 3.4495s + 7.4495}$$

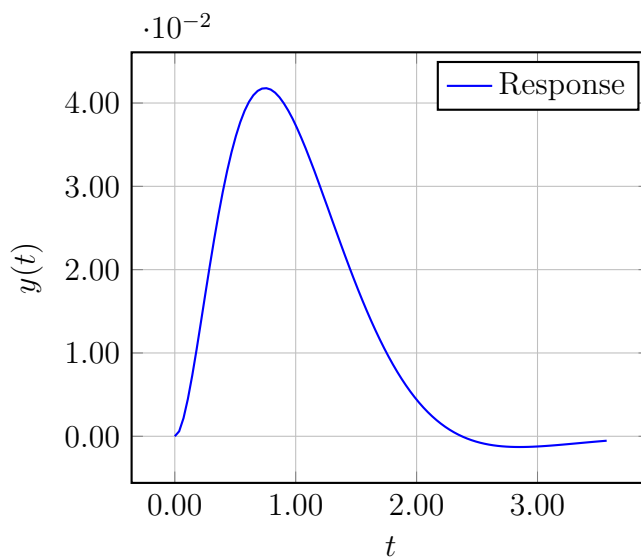
which of the following PI-controllers stabilizes the system in a closed-loop unit feedback structure?

- A. $F(s) = -3.39899 + \frac{0.9495}{s}$
- B. $F(s) = -7.30304 + \frac{3.39899}{s}$
- C. $F(s) = 3.19696 + \frac{1.89899}{s}$
- D. $F(s) = -8.20203 + \frac{1.89899}{s}$
- E. $F(s) = 2.29797 + \frac{3.39899}{s}$

2. (50 points) Which of the following does not overshoot?



A.



B.