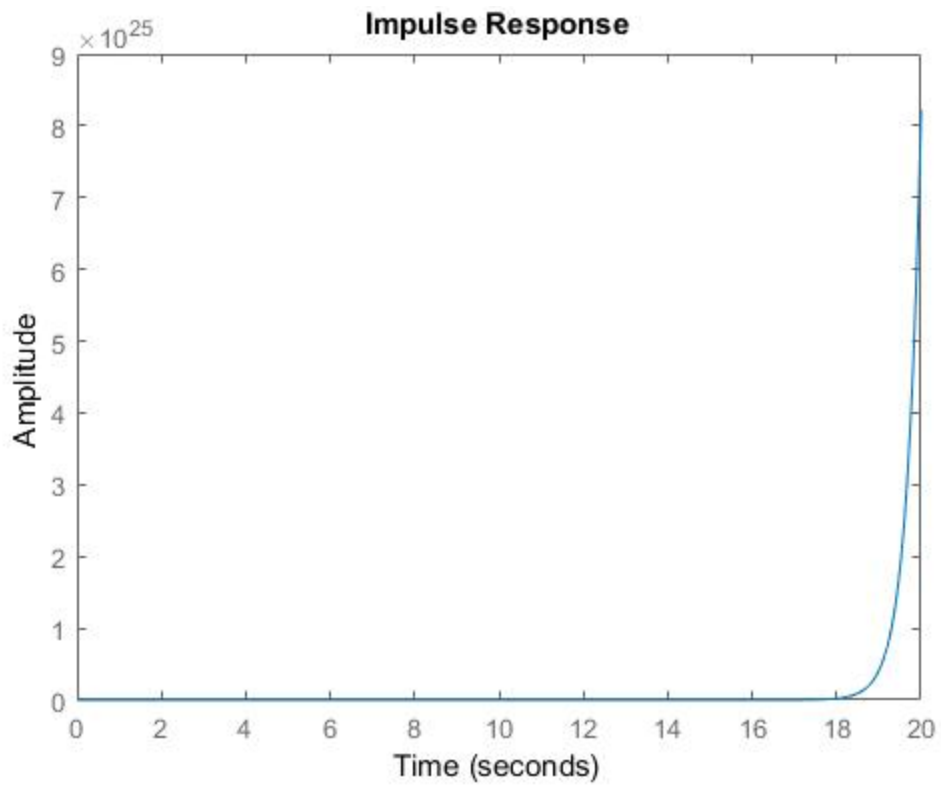
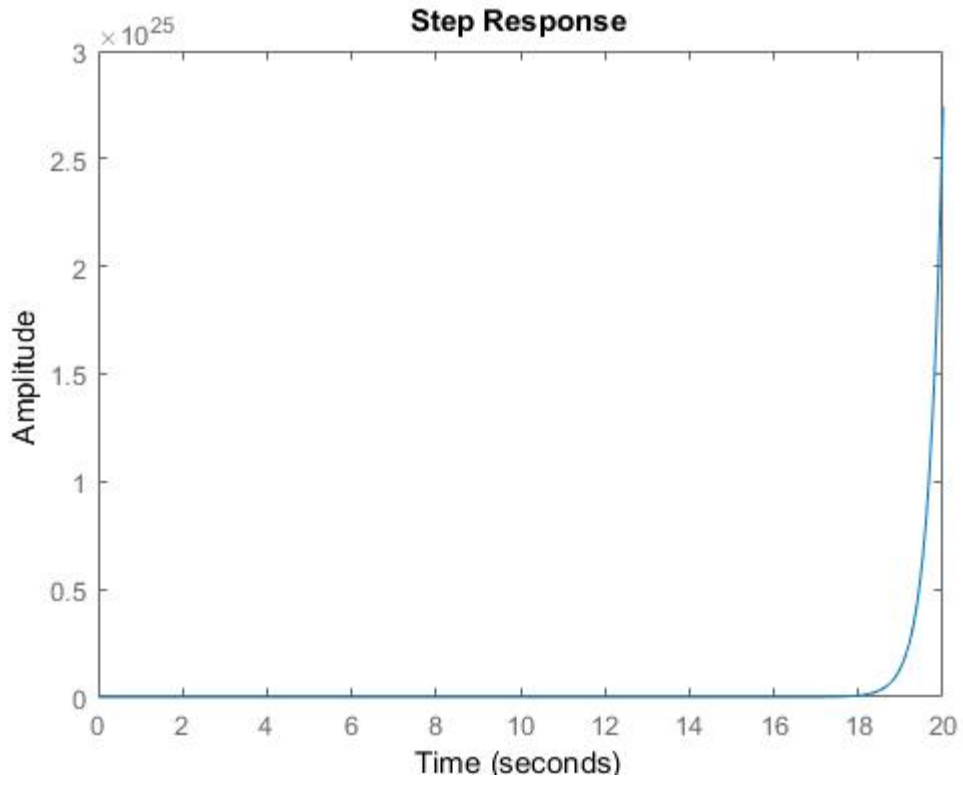
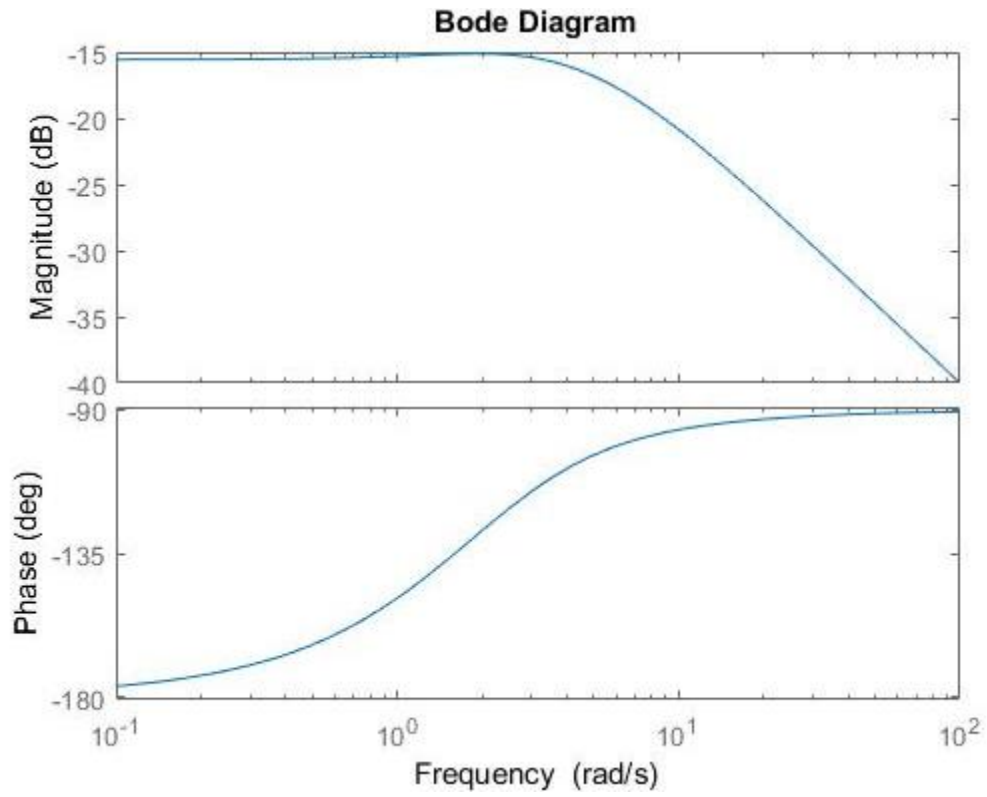


Answer 1

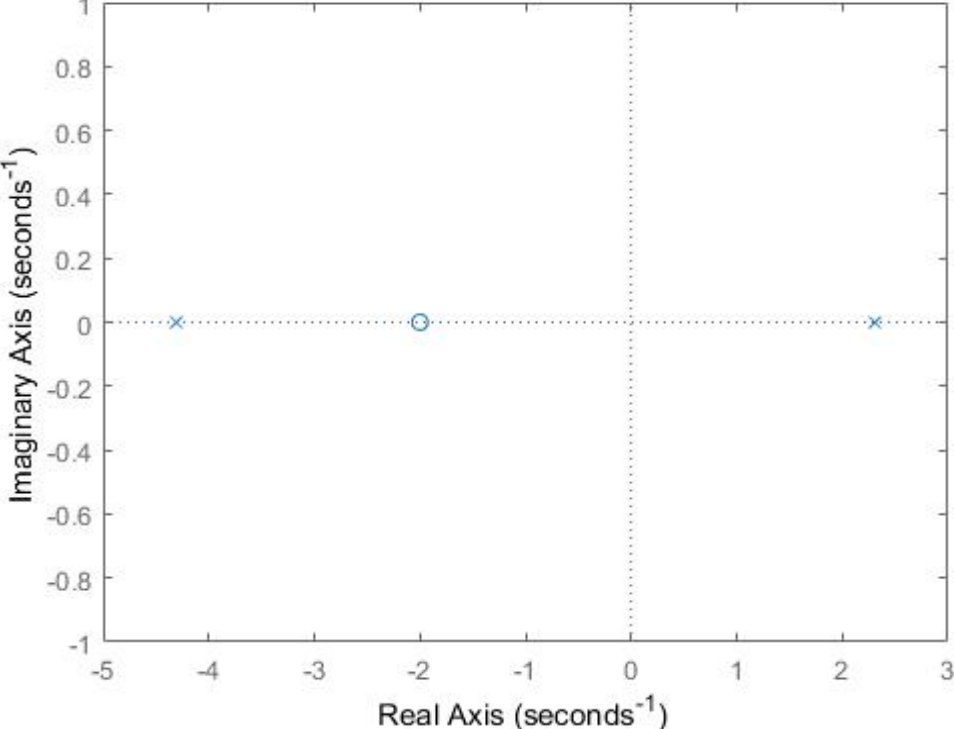
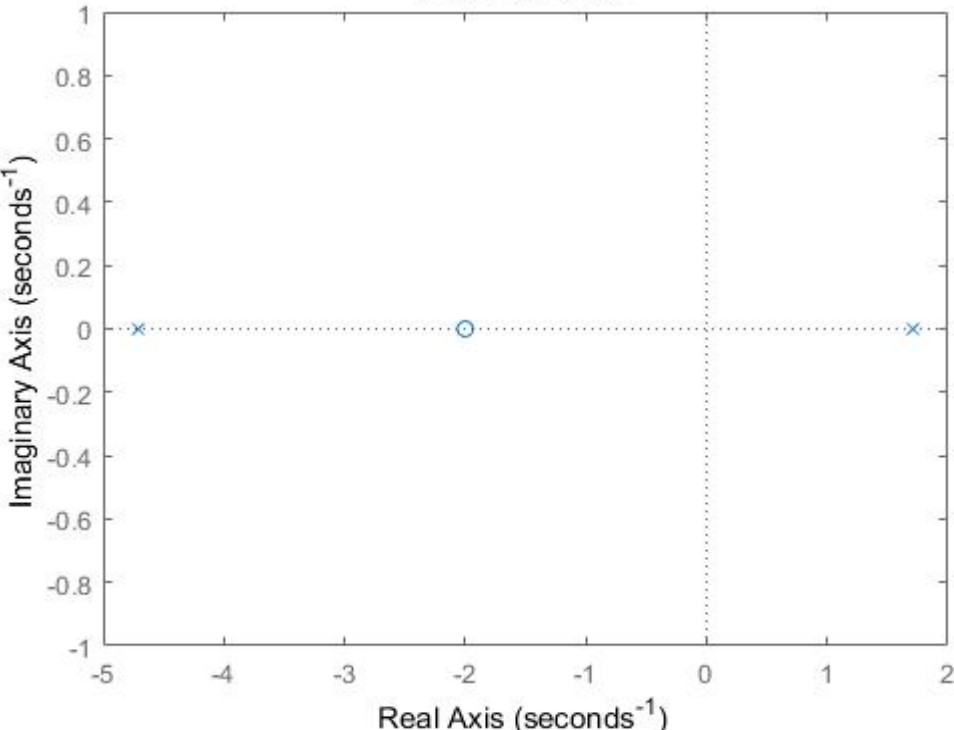




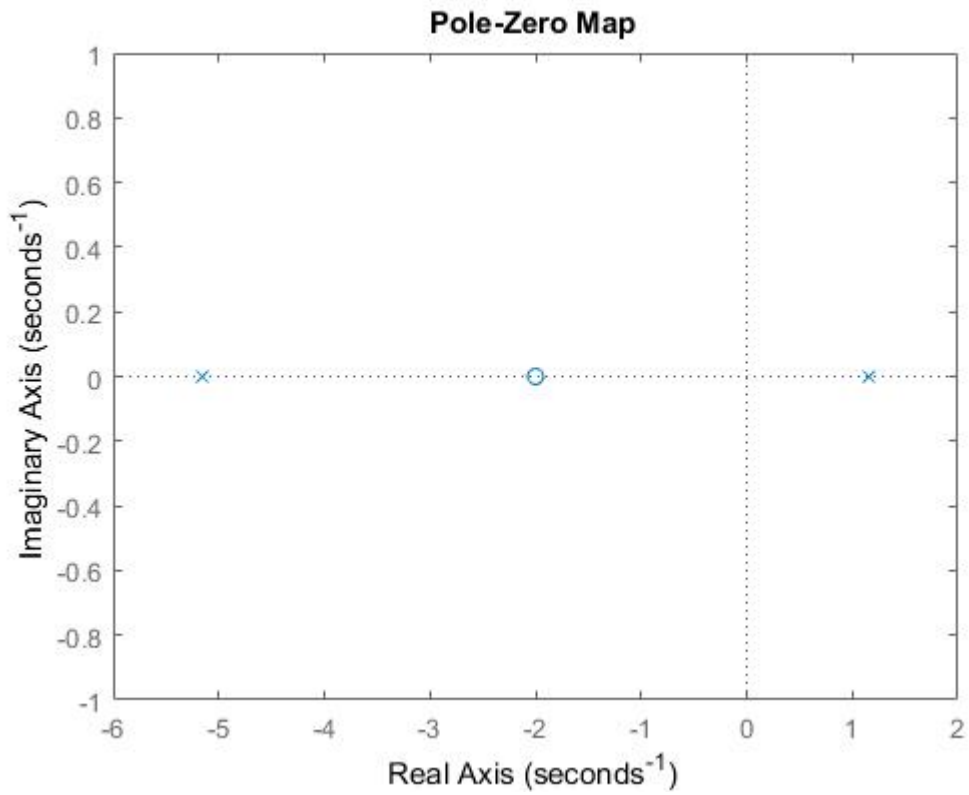
No, the system is BIBO stable. Because the magnitude increases and does not stabilize at any point.

Answer 2

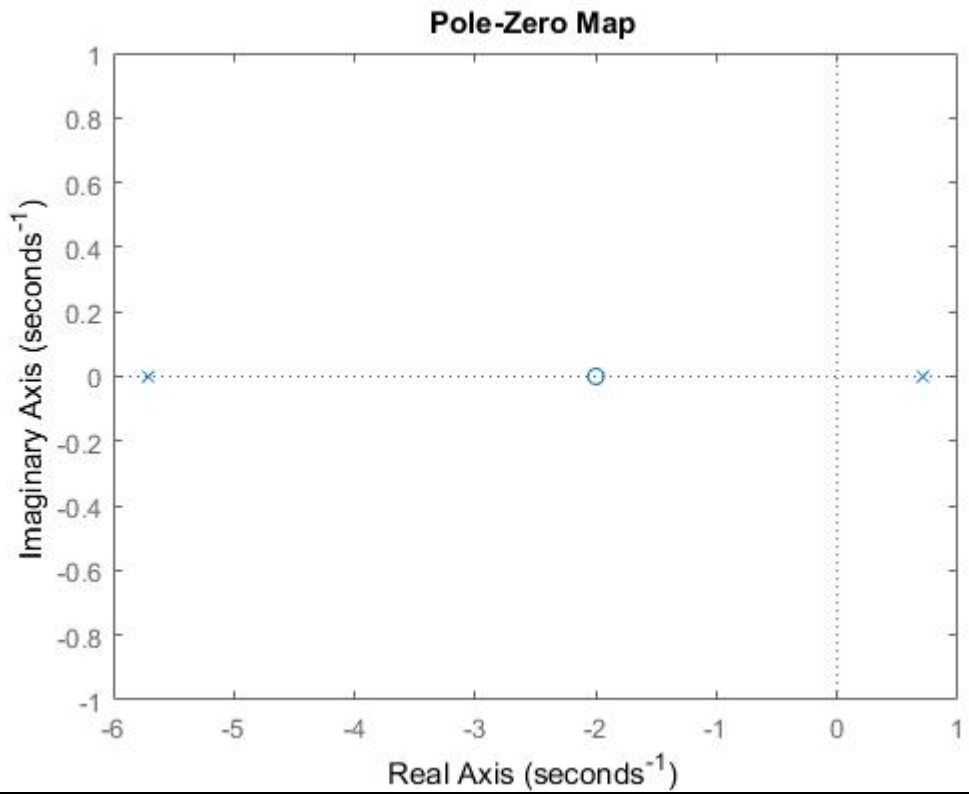
Zero Pole Maps

K	Plot
1	<p style="text-align: center;">Pole-Zero Map</p>  <p>The plot shows the imaginary axis (seconds⁻¹) on the y-axis ranging from -1 to 1, and the real axis (seconds⁻¹) on the x-axis ranging from -5 to 3. There are two poles marked with 'x' at approximately -4.5 and 2.5 on the real axis. There is one zero marked with a circle at -2 on the real axis.</p>
2	<p style="text-align: center;">Pole-Zero Map</p>  <p>The plot shows the imaginary axis (seconds⁻¹) on the y-axis ranging from -1 to 1, and the real axis (seconds⁻¹) on the x-axis ranging from -5 to 2. There are two poles marked with 'x' at approximately -4.5 and 1.5 on the real axis. There is one zero marked with a circle at -2 on the real axis.</p>

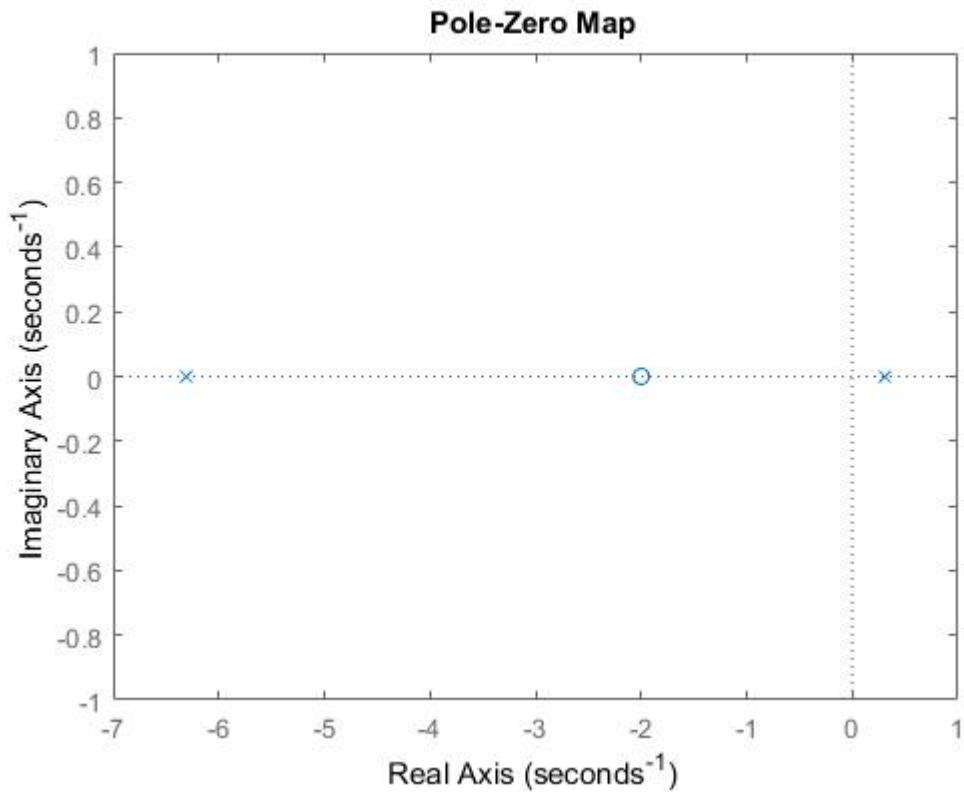
3



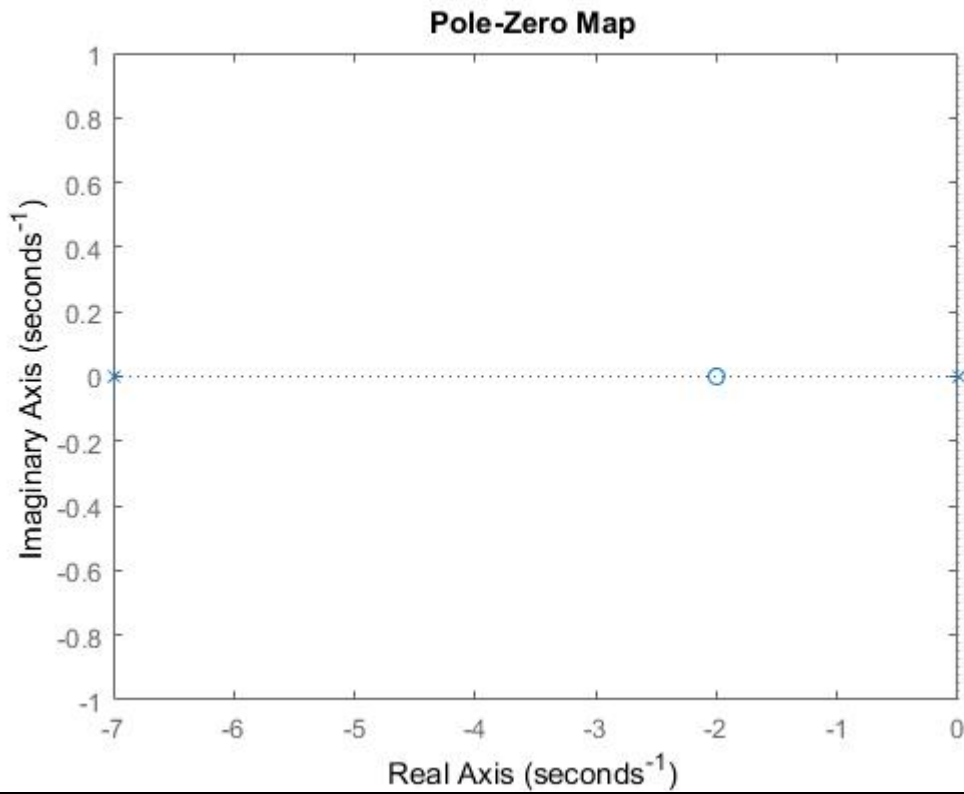
4



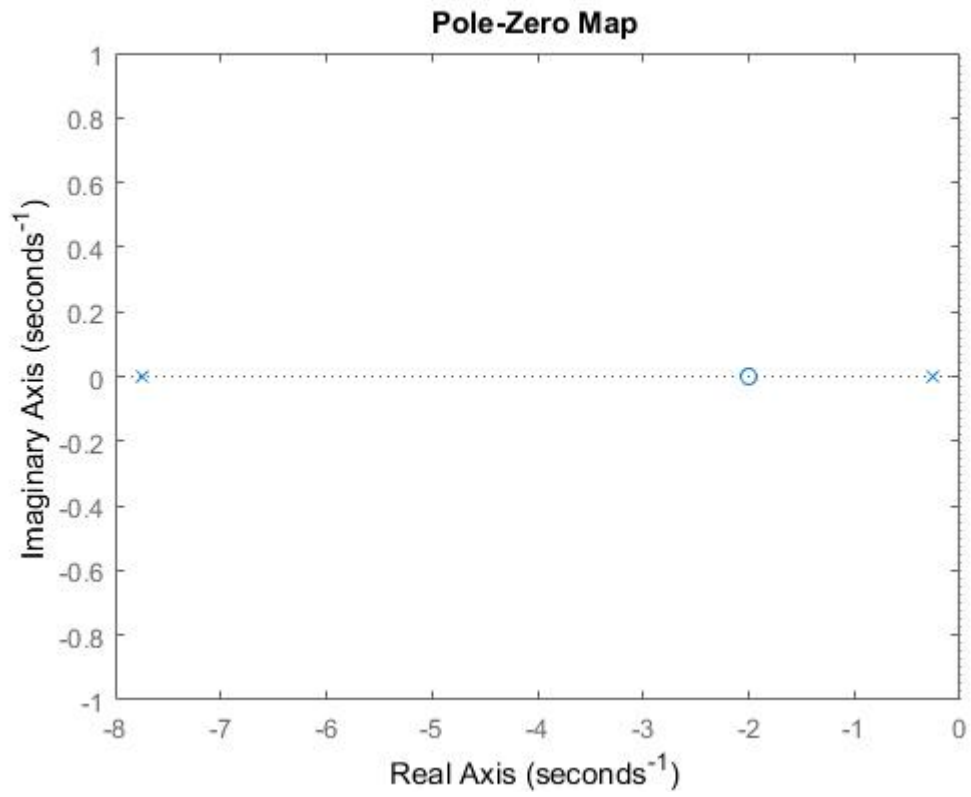
5



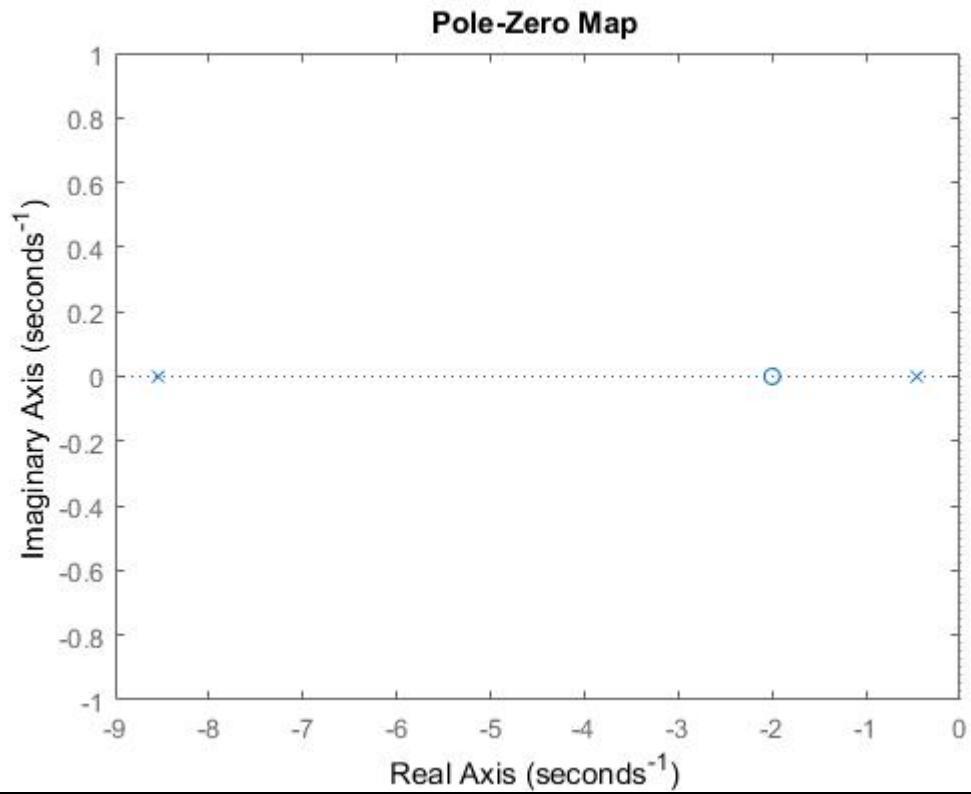
6



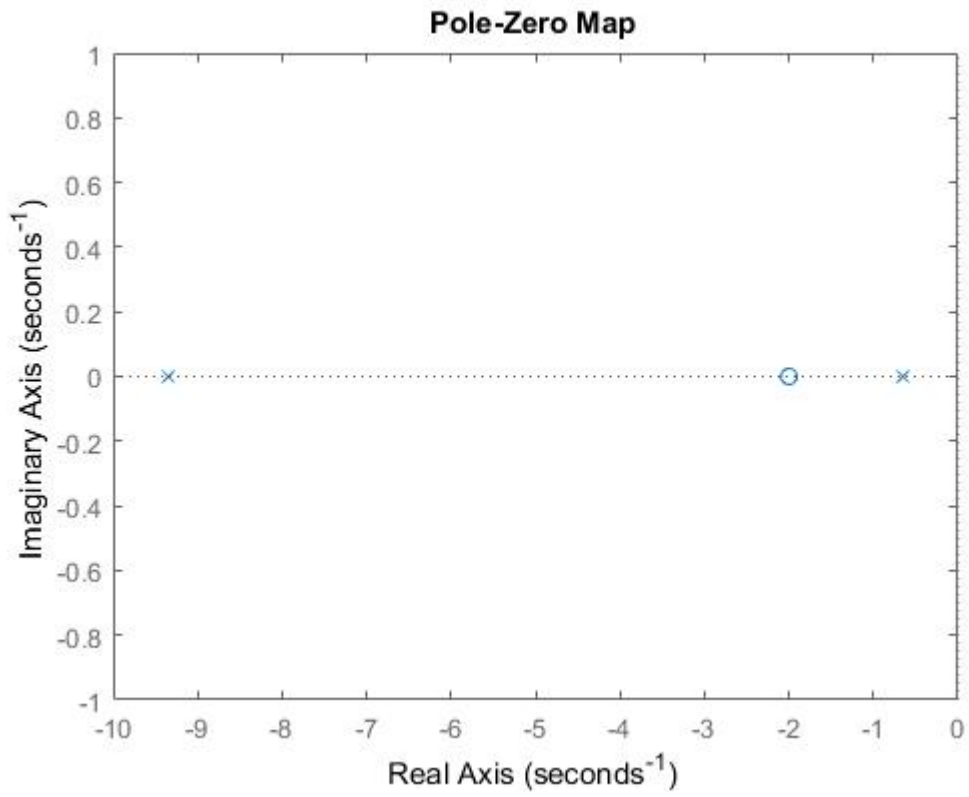
7



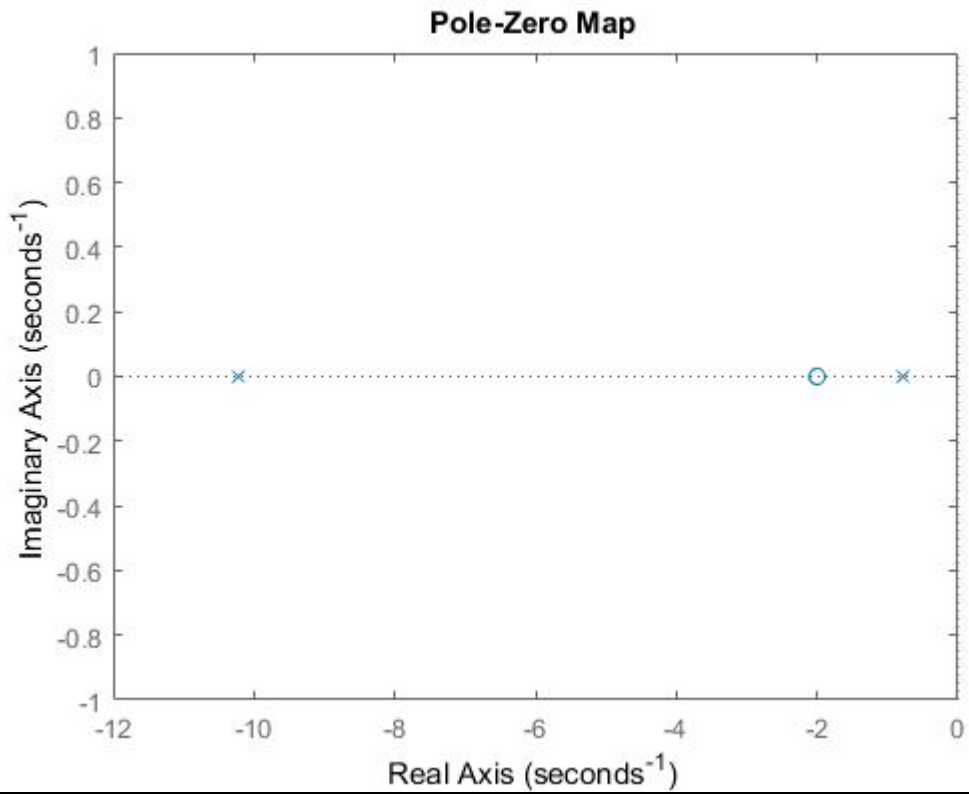
8



9



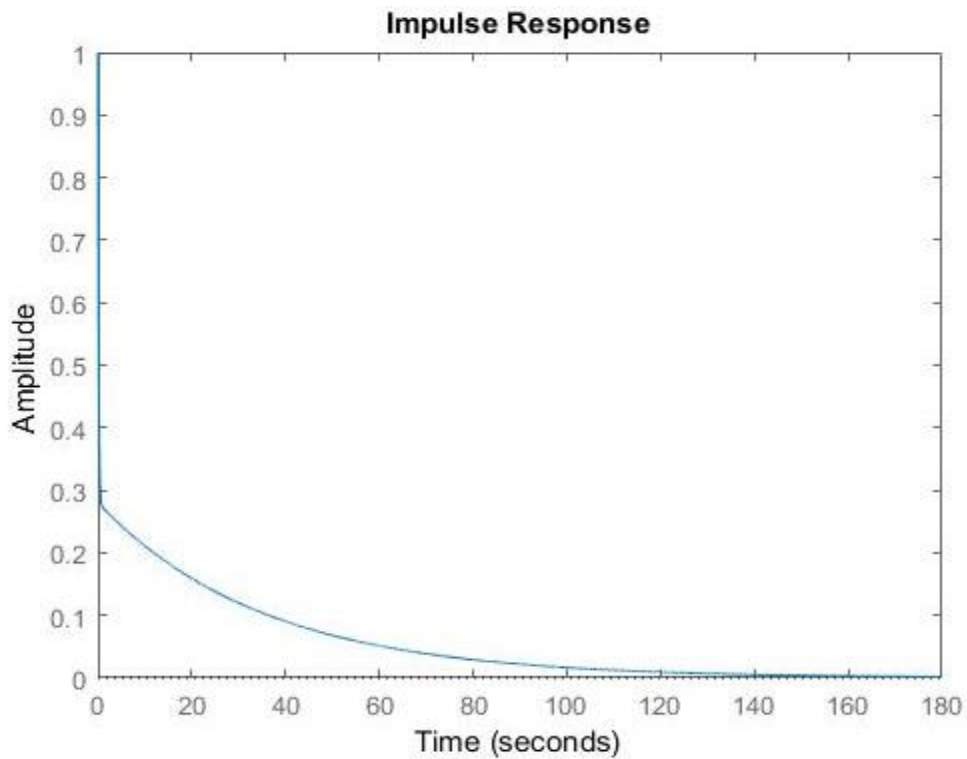
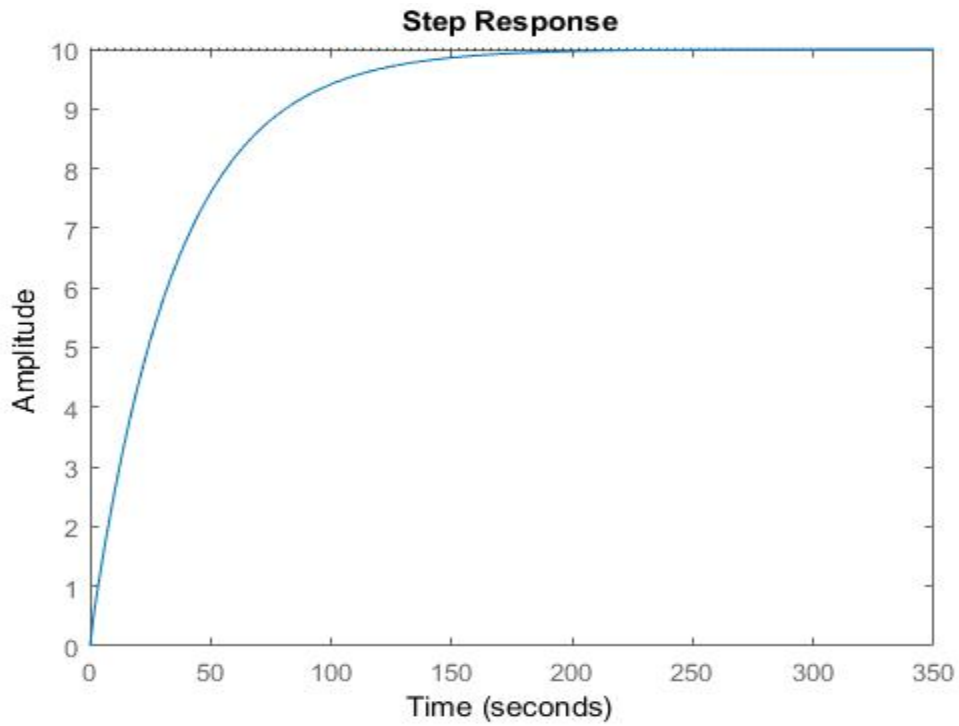
10



Answer 3

The smallest value of K for which all the poles are in the left hand plane is 6.1

Answer 4



Bode Diagram

