FIGURE 7.1 Closed-loop control system with a variable parameter K.

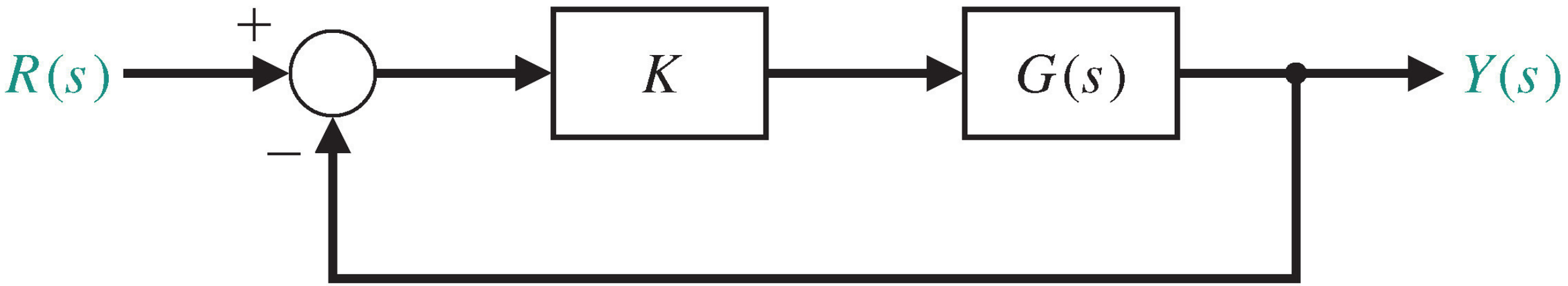

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FIGURE 7.2 Unity feedback control system. The gain K is a variable parameter.

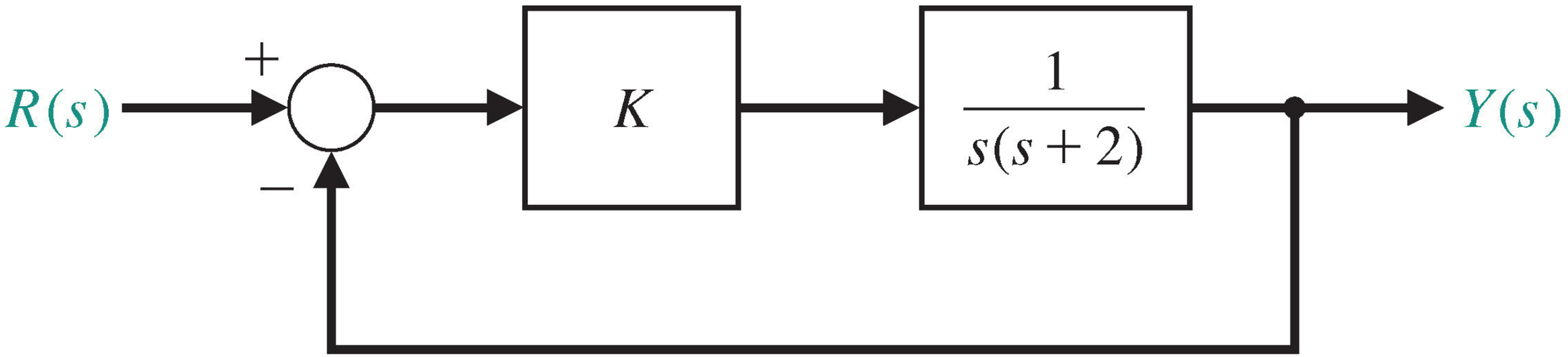

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FIGURE 7.3 Root locus for a second-order system when $K_\theta < K_1 < K_2$. The locus is shown as heavy lines, with arrows indicating the direction of increasing K. Note that roots of the characteristic equation are denoted by "□" on the root locus.

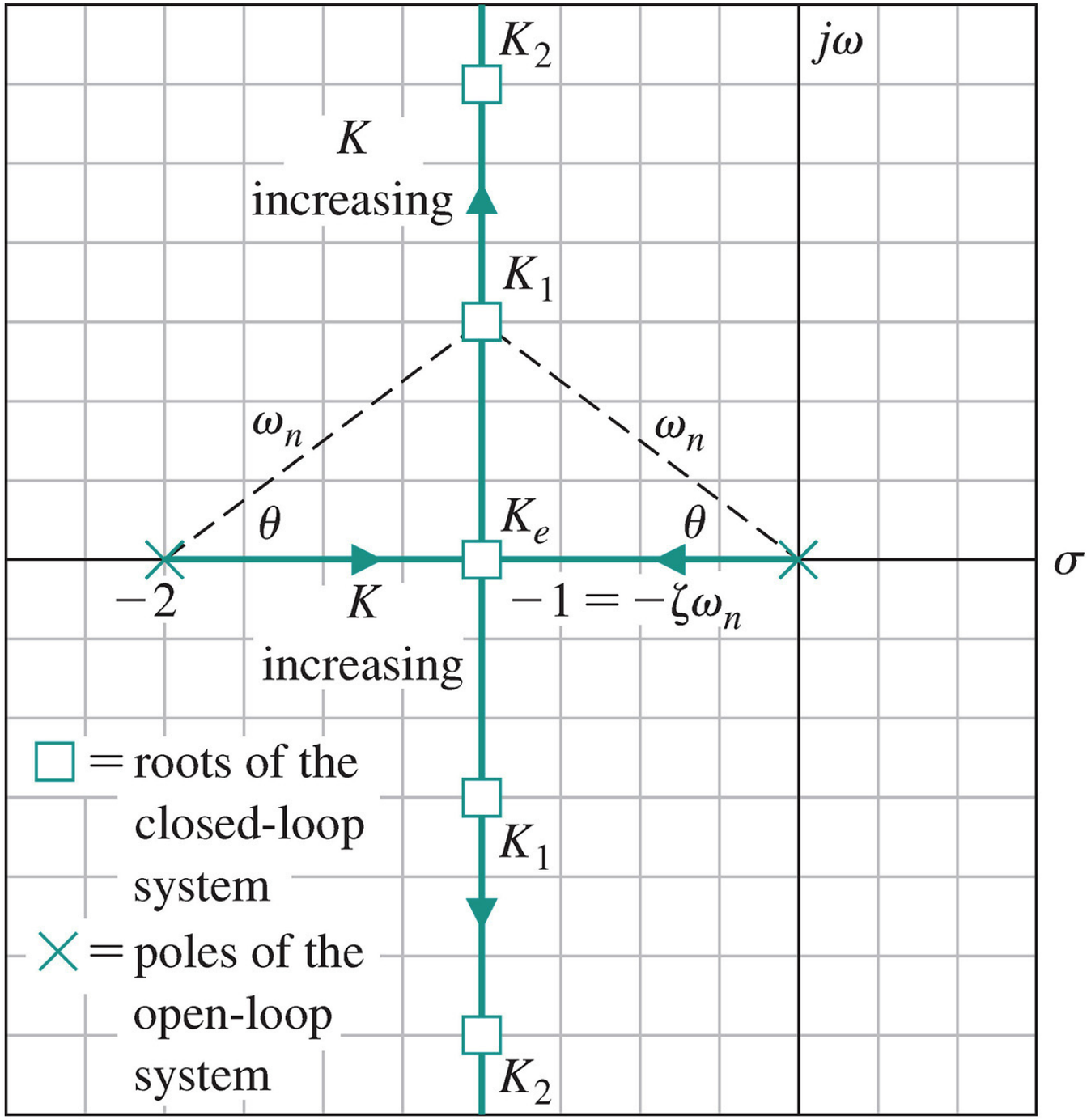

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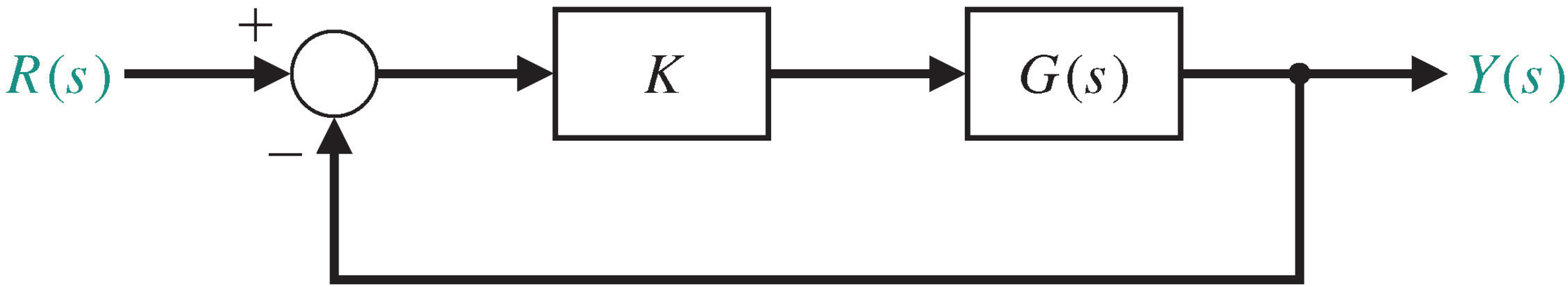
FIGURE 7.1 Closed-loop control system with a variable parameter K.



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The root locus is the path of the roots of the characteristic equation traced out in the s-plane as the gain K varies from zero to infinity.

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FIGURE 7.6 (a) The zero and poles of a second- order system, (b) the root locus segments, and (c) the magnitude of each vector at s_1.

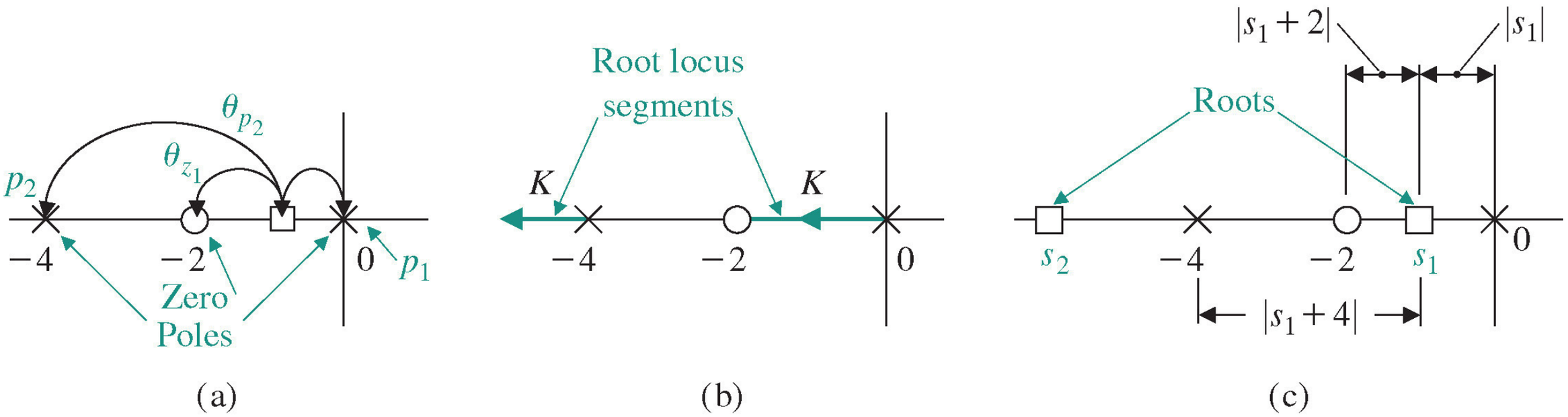

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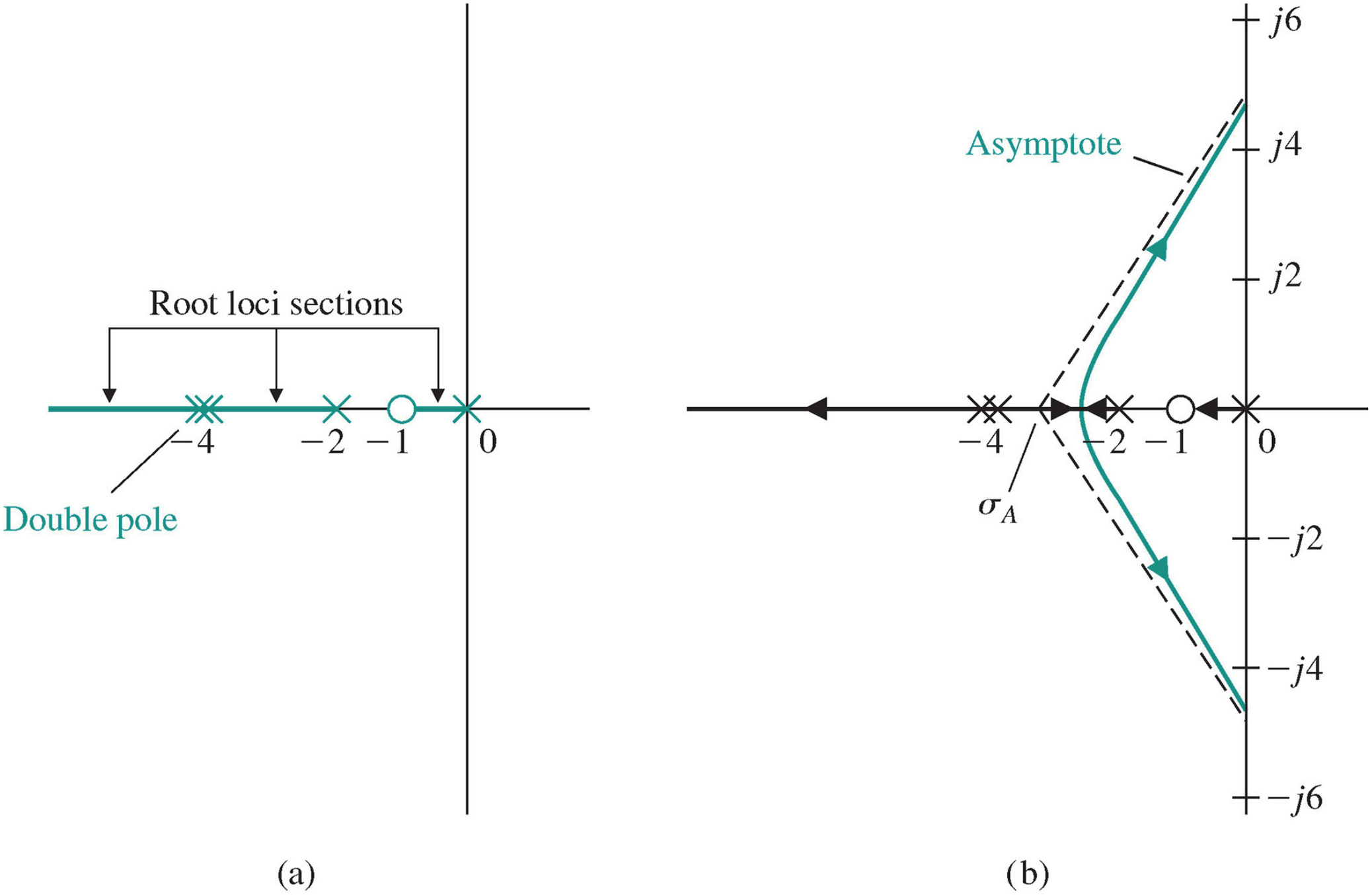
FIGURE 7.7 A fourth-order system with (a) a zero and (b) root locus.



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