or
\[ M(x) = 40 - 8x \quad 4 < x \leq 5 \]

The plots of \( V(x) \) and \( M(x) \) are

FIGURE S7.21e

The maximum value of the bending moment is \( 14 \text{ kNm} \), so the beam will not hold the desired load and does not satisfy the code.