Problem 8

(II) Multiply 2.079×10^2 m by 0.082×10^{-1}, taking into account significant figures.

Solution

2.079×10^2 m has four significant figures, while 0.082×10^{-1} only has two. The final answer is therefore rounded to two significant figures.

$$(2.079 \times 10^2 \text{ m}) \times (0.082 \times 10^{-1}) = (2.079 \times 0.082) \times 10^{2-1} \text{ m} \approx (0.17) \times 10^1 \text{ m} = 1.7 \text{ m}$$