Chapter 1 Problem 30 [†]

Given
$5.1 \times 10^{-2}\ cm = 5.1 \times 10^{-4}\ m$
$6.8 \times 10^{3}\ \mu m = 6.8 \times 10^{-3}\ m = 68 \times 10^{-4}\ m$
$1.8 \times 10^{4}\ N$

Solution
Add the two lengths together and multiply by the force.

$$(5.1 \times 10^{-4}\ m + 68 \times 10^{-4}\ m)(1.8 \times 10^{4}\ N) = 1.32 \times 10^{2}\ N \cdot m$$

If applying the concept of proper number of significant digits, then the result of the addition is only good to two significant digits (the 1×10^{-4} place). Also, the multiplication is only good to two significant digits. Therefore, the answer is

$$1.3 \times 10^{2}\ N \cdot m$$

[†]Problem from Essential University Physics, Wolfson