SHOW ALL WORK!!!!!
REPORT ALL NUMBERS TO THREE SIGNIFICANT FIGURES!
Use the conversion constants and data given on the front page.

In the diagram shown the force, \( F \), is at \( 15.0^\circ \) above the horizontal.

(a) Calculate the work done by gravity when the block is moved 1.35 m down the plane.
(b) What is the work done by the force \( (F) \) when the block is moved 2.35 m down the plane.
(c) Find the work done by friction when the block is moved 2.35 m down the plane.

\[
W = F \cdot \Delta s = (-mg) (-1.35 \text{ m} \sin \theta) = \frac{7.35 \text{ J}}{}
\]

\[
= (3.20 \text{ kg}) (9.80 \text{ m/s}^2) (1.35 \text{ m}) \sin 10^\circ
\]

\[
W = F \cdot \Delta s = [(35.0 \text{ N}) \sin 25^\circ \uparrow + (35.0 \text{ N}) \cos 25^\circ \uparrow] \cdot 2.35 \text{ m} \uparrow
\]

\[
= 74.5 \text{ J}
\]

\[
f = \mu_k N = \frac{\Sigma F_y}{m} = a_y = 0 = N - mg \cos 10^\circ + F \sin 25^\circ
\]

\[
N = mg \cos 10^\circ - F \sin 25^\circ
\]

\[
f = (0.55) [(mg \cos 10^\circ) - F \sin 25^\circ] \uparrow
\]

\[
W = F \cdot \Delta s = (0.55) [(3.20 \text{ kg}) (9.80 \text{ m/s}^2) \cos 10^\circ - 35 \text{ N} \sin 25^\circ] (-2.35 \text{ m})
\]

\[
= -20.5 \text{ J}
\]