Number 4 (heat_formula_mixture)
You are making iced coffee at Dunkin Donuts!.
You have 0.15 kg of ice at an initial temperature of 0°C.
You have 0.40 kg of coffee at an initial temperature of 85°C. Assume that the coffee has the same specific heat as WATER.
What will be the final temperature of the iced coffee.

I will give you the formula to solve this problem. You must figure out each portion and solve it.

The *released by the ice* = The heat *absorbed by the water.*

$$m_1 H_f + m_1 C_1 (T_f - T_{i1}) = m_2 C_2 (T_f - T_{i2})$$

A B Γ

Piece A: this is the heat energy needed to melt the ice
Piece B: this is the heat energy that heats up the COLD water (after the ice is melted.
Piece Γ: This the heat energy that COOLS down the hot water (the coffee).

The FINAL TEMPERUTE T_f is the SAME for both the hot and cold parts of the equation, because two items reach thermal equilibrium at the same temperature!>

Looking for:
T_{f-} = ?

Already Know:
m_1 =
m_2 =
H_f =
C_1 =
C_2 =
T_{i1} =
T_{i2} =

When solving this problem, make sure to use the DISTRIBUTIVE PROPERTY from algebra.