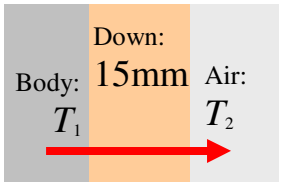
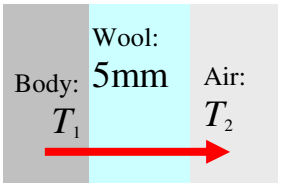
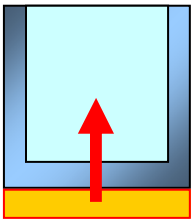
Comparison of coats: You want to compare the "warmth" of two coats; a typical goose-down ski coast, and a typical wool "pea" coat. Assuming that the same person would wear them, determine the ratio of the heat flow leaving the body for these two coats.
Given: $k_D = 0.025$ W/Km, $k_W = 0.040$ W/Km.





Comparison of cooking pots: You want to choose whether to use an aluminum pot or a copper pot to boil pasta. In either case, the temperature of the water will be 100 °C, because it's boiling. The two pots are geometrically identical (the same bottom area, the same depth, the same thickness of metal). Suppose you observe that the temperature of the stove beneath the *aluminum* pot is $T_A = 155$ °C to get the water to boil. What *stove* temperature T_C would be necessary to boil the water for the copper pot? Given: $k_A = 240$ W/mK, $k_C = 390$ W/mK.



V. Conduction through a wall: The walls of a certain house are made of 3 layers: plaster on the inside where people can see the walls ($k_A = 0.3$; to look nice), then bricks ($k_B = 0.6$) to hold up the roof, then wood ($k_C = 0.1$) on the outside so you can paint it. Suppose all three layers are equally thick ("L"). On a certain winter day, the inside temperature is 27°C, and the outside temperature is 0°C. Determine the temperature at the inner and outer edges of the brick.