

1. (6 points) Let  $w$  be the thickness (in inches) of the insulating clothing chosen by a mountain climber. Let  $T(w)$  be her resulting body temperature, in Fahrenheit degrees.

a) (4 pts) What does the formula  $T'(4) = -0.4$  tell you, in terms of temperature and clothing?

This means that at 4 inches thickness of clothing, the body temperature is approximately decreasing by  $\frac{4}{10}^{\circ}\text{F}$  if you add an extra inch of insulation.

b) (2 pts) Is the statement of part a) reasonable or unreasonable? No explanation necessary.

This doesn't really make sense, since one would expect  $T'(w) \geq 0$ , i.e., the more insulation she wore, the warmer she would stay.