6. [10 points]

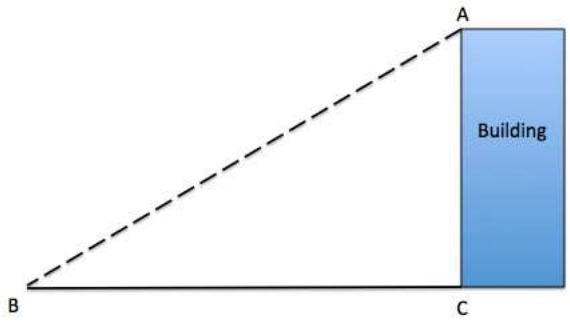
a. [5 points] The temperature T (in degrees Fahrenheit) at a point next to a campfire is inversely proportional to the square of its distance d (in meters) from the fire. If the temperature at a point 0.5 meters away from the fire is 500° F, what is the temperature (in degrees Fahrenheit) at 1.5 meters away from the fire? Show all your work to receive full credit.

Answer=_____

b. [2 points] Let $H(x) = (x^3 + 1)^2$. Find two functions $K(x)$ and $J(x)$ such that $K(J(x)) = H(x)$. Your functions should satisfy $K(x) \neq x$ and $J(x) \neq x$.

$K(x) =$_____ $J(x) =$_____

c. [3 points] The shadow (the segment BC) made by a 150-foot-tall building has a length of 200 feet. Find the value, in **radians**, of the angle ABC.



Angle ABC=_____