Frank S. Key
A Related Rates Problem
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Please stand to read the problem.

Late one dangerously icy evening, Frank S. Key, the nationally famous anthem writer, was sliding around on the slick streets of Baltimore, trying to flag down some inspiration for a new anthem. As he approached Ft. McHenry, he decided to practice his detective skills and find someone to shadow (another shadow problem). He spotted his subject Jose Canusee by the Dawn Zerly Light, what so proudly he hailed at the twilight's last gleaming. Jose, whose broad stripes and bright stars made it easy to follow him through the perilous night, especially by the rockets red glare and bombs bursting in air as someone nearby was shooting off fireworks. As he was gallantly streaming down Rampart St. Key was inspired to use this situation for a calculus problem while he still tried to come up with an idea for a new song. He noted that the Dawn Zerly Light was 26 ft tall. Jose is 6 ft tall. Jose, starting at the light, was walking away from the Dawn Zerly Light at 3 ft/s.

A.   How fast is the length of Jose's shadow changing?

B.   How fast is the tip of the shadow moving from the pole?

C.   After 10 seconds has passed, what is the rate a change of the angle from the tip of his shadow, to the top of the Dawn Zerly Light?

 This experience inspired Frank S. Key to write that well-known song.

"Me And My Shadow."