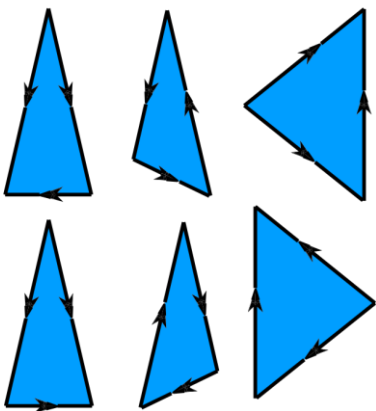# Problems of the Month

September 2019

General Problem:

Jeremy deposits $200 into a certificate of deposit that earns 4% interest, compounded annually. After 5 years, how much money does Jeremy have?

Calculus Problem:

Jacob deposits $200 into a certificate of deposit that earns 4% interest, compounded continuously over 5 years. Set up the integral that calculates the amount of money he will have at the end of the 5 years.

Challenge Problem:

Suppose a triangle XYZ has area A. By picking point R on side XY, point S on YZ, and point T on ZX so that the resulting triangle RST has each side parallel to a different side of triangle XYZ, what is the smallest area triangle RST can have?