A 59 kg pilot in a plane does a vertical loop de loop with radius 366 meters at a constant speed of $94 \mathrm{~m} / \mathrm{s} . \mathrm{g}=10 \mathrm{~m} / \mathrm{s} / \mathrm{s}$
a. What is the centripetal force magnitude in Newtons on the pilot while looping?
b. Draw a force diagram for the pilot at the top of the loop de loop.
c. What is the force normal magnitude in Newtons from the seat on the pilot at the top of the loop de loop?
d. How many units of g-force does the pilot experience at the top of the loop de loop?
e. Draw a force diagram for the pilot at the bottom of the loop de loop.
f. What is the force normal magnitude in Newtons from the seat on the pilot at the bottom of the loop de loop?
g. How many units of g-force does the pilot experience at the bottom of the loop de loop?

