3-12-4	11/20/22	Isaac Abella

Problem) Bus around a curve

A) when a bus turns along a flat curve, the friction of force is in the direction of?

3 - total acceleration

B) A bus is going at a rate of $5.8\ ft/s^2$ while going around a 290 ft radius at 36 ft/s

total acceleration = $\sqrt{a^2_{tan} + a^2_n}$

$a_n = \frac{36^2}{290} = 4.46$

$\sqrt{4.46^2 + 5.8^2} = \boxed{7.31\ ft/s^2}$

C) determine the tangential acceleration.

$\frac{32^2}{235} = 4.35$ $\sqrt{4.35^2 - 9.6^2} = \boxed{8.55\ ft/s^2}$

D) determine the speed of the bus at a 287 ft radius turn at a total acceleration of $10.1\ ft/s^2$ and a tangential acceleration of $4.41\ ft/s^2$.

$\sqrt{10.1^2 - 9.09^2} = 9.09\ ft/s^2$

$\sqrt{9.09^2 \cdot 287} = \boxed{51.1\ ft/s}$