

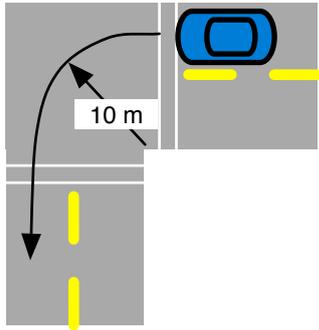
Wk 23 Circular Motion

3. Calculating Centripetal Acceleration

$$accel_{CENTRIPETAL} = \frac{v^2}{r}$$

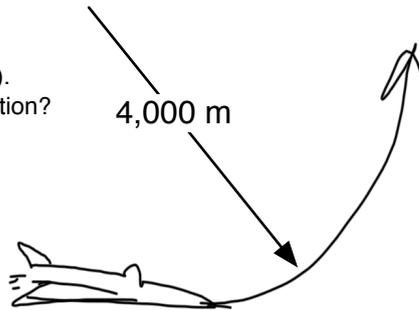
then divide by 10 to convert to g's

SHOW WORK!



1. The car takes a turn at 12 m/s.
 - a) What is the car's centripetal acceleration?
 - b) How many g's is that?

2. The pilot takes the turn at 600 m/s (Mach 2).
 - a) What is the jet's centripetal acceleration?
 - b) How many g's is that?



3. The riders have an actual velocity of 8 m/s, and the radius of the outer riders is 4 meters.
 - a) What is the centripetal acceleration of the outer riders?
 - b) How many g's is that?



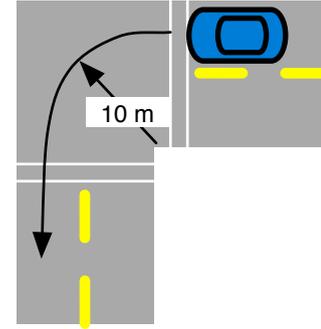
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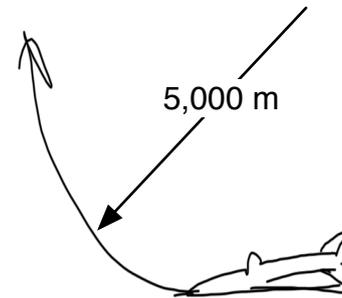
then divide by 10 to convert to g's

SHOW WORK!



1. The car takes a turn at 12 m/s.
 - a) What is the car's centripetal acceleration?
 - b) How many g's is that?

2. The pilot takes the turn at 500 m/s (Mach 2).
 - a) What is the jet's centripetal acceleration?
 - b) How many g's is that?



3. The riders have an actual velocity of 15 m/s, and the radius of the outer riders is 5 meters.
 - a) What is the centripetal acceleration of the outer riders?
 - b) How many g's is that?

