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**Ch 7.1 Circular Motion -** Page 238 - Practice Problems B – Centripetal Force

1. A 2.10 m rope attaches a tire to an overhanging tree limb. A girl swinging on the tire has a tangential speed of 2.50 m/s. If the magnitude of the centripetal force is 88.0 N, what is the girls mass?
2. A bicyclist is riding at a tangential speed of 13.2 m/s around a circular track. The magnitude of the centripetal force is 377 N, and the combined mass of the bicycle and the rider is 86.5 kg. What is the track’s radius?
3. A dog sits on 1.5 M from the center of the merry-go-around and revolves at a tangential speed of 1.80 m/s. If the dog’s mass is 18.5 kg, what is the magnitude of the centripetal force on the dog?
4. A 905 kg car travels around a circular track with a circumference of 3.25 km. If the magnitude of the centripetal force is 2140 N, what is the car’s tangential speed?