

Classwork 4-26

1. ~~1.1~~ A yo-yo has a centripetal acceleration of 250 m/s^2 . If the yo-yo's string is 0.50 m long, what is the yo-yo's tangential velocity?
2. A dog ~~is~~ sits 1.50 m from the center of a merry go round ~~is~~ has a tangential velocity of 1.80 m/s . If the dog's mass is 18.5 kg , what is the centripetal force on the dog?

$$a_c = \frac{v_t^2}{r}$$

$$\text{Centripetal acceleration} = \frac{(\text{tangential velocity})^2}{\text{radius}}$$

$$F_c = \frac{m v_t^2}{r}$$

$$\text{Centripetal force} = \frac{\text{mass} \cdot (\text{tangential velocity})^2}{\text{radius}}$$