

Solving Circular Motion Problems in the Horizontal Plane

1. David winds up with a 150 g pebble in his slingshot. The slingshot thongs are 43 cm long and are revolving 5 times per second. What is the tension in the thongs?
2. David knows from past experience that if he swings the sling shot too fast the tension becomes too great and the thongs snap. If the thongs can withstand a maximum tension of 120 N, what is the maximum rpm's allowed?
3. A 210 g potato is sitting 21 cm from the center of a microwave oven tray slides off the rotating tray if its linear speed exceeds 11 cm/s. Determine the coefficient of static friction between the potato and the tray.

