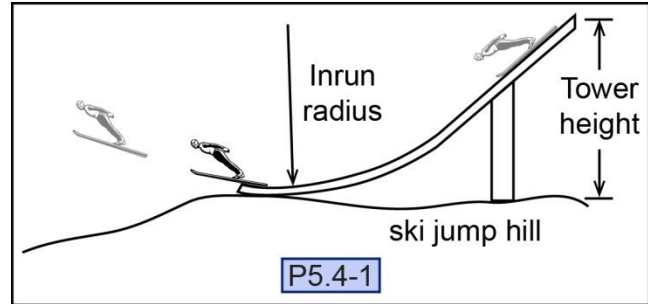**P5.4-1)** A ski jump has the technical parameters listed below. The ski jump speed is rated at 94.3 km/h at takeoff. What normal force would an average 68-kg skier experience at take-off under these conditions?

- Tower height: 60 m
- Inrun angle: 35°
- Take-off angle: 11°
- Inrun radius: 104 m

P5.4-1

Given:

Find:

Solution:

Draw a free-body diagram of the skier.

Determine the normal force applied to the skier.

Write down the skier's equation of motion.

$N =$ _____