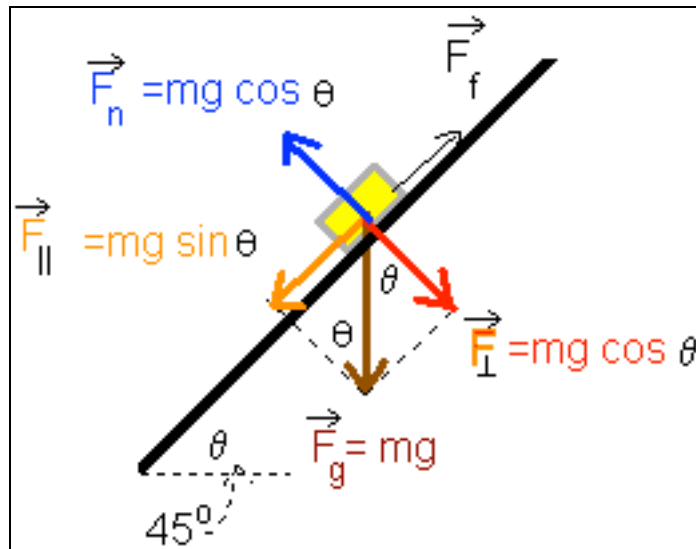
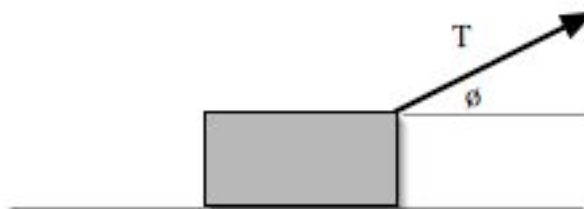


Show all your details work on separate sheet(s) (0½ x 11):

- 1.) A 10 kg block lies on a smooth ramp that is inclined at 30° . What force, parallel to the ramp, would prevent the block from moving? (Remember the force of gravity is 9.8 m/s^2 .)
- 2.) A boy on a toboggan is sliding down a snow-covered hillside. The boy and toboggan together have a mass of 50 kg, and the slope is at an angle of 30° to the horizontal. Find the boy's acceleration considering the following (If there is no friction).
- 3.) A 25.0 kg block is pulled along a frictionless horizontal surface by a string. The string makes an angle of 30° to the horizontal and is pulled by a 100 N force. What is the acceleration of the block?



- 4.) A 20 kg chandelier is suspended from a ceiling by two wires that make angles of 30° and 45° with the ceiling. Determine the tension in each of the wires.
- 5.) A mass of 5 kg is suspended by two strings, 24 cm and 32 cm long, from two points that are 40 cm apart and at the same level. Determine the tension in each of the strings.

**All MATH Course structured & Tutoring
By:****Kumar Nalliah, E.Eng, Net.Eng, MCSE, MCP+I, A+, N+, S+****Over 15 Years Teaching Experience with NallPro, 5 Yrs w TBE**