to which the materials have to be lifted. 104000 foot-pounds. **9.** 1920 foot-pounds, 2800 foot-pounds, 4720 foot-pounds. **10.** 44,000 foot-pounds.

THE PULLEY

Exercise 5.—1. (*a*) 30 lb. (*b*) 20 lb. (*c*) 70 lb. **2.** (*a*) 15 lb. (*b*) 34 lb. (*c*) 120 lb. **3.** What wt. can be raised? How high has this to be raised? 1800 foot-pounds. Through 40 ft. **4.** How much of the wt. does he lift? 44 lb. **7.** 480 lb., 28 lb. **8.** 50 lb., $55\frac{5}{6}$ lb. **9.** (*a*) $\frac{1}{2}$ in. (*b*) $1\frac{1}{2}$ ft. **10.** He would press nothing on the floor. 80 lb. **11.** 20 lb. **12.** 260 lb., 200 lb. **13.** Practice the pupils in making neat diagrams of these machines.

REVIEW

Exercise 6.—2. 32 lb. **3.** 240 lb. **4.** 2400 lb. **5.** 1500 lb. **6.** 1186 lb. **8.** 5120 foot-pounds, 7360 foot-pounds.

THE INCLINED PLANE

Exercise 7.—5. (*a*) $33\frac{1}{3}$ lb., 1000 foot-pounds, 1000 foot-pounds. (*b*) $769\frac{3}{13}$ lb., 10000 foot-pounds. **6.** 75 lb., 22500 foot-pounds. **7.** 200 lb., 160000 foot-pounds. **8.** You are asked here to find the pressure of the toboggan and its freight on the slope. 9 lb. **9.** $60\frac{2}{3}\frac{0}{3}$ lb.