Newton's Second Law

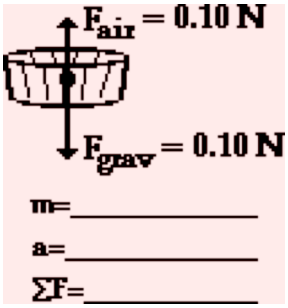
Read from **Lesson 3** of the **Newton's Laws** chapter at **The Physics Classroom**:

http://www.physicsclassroom.com/Class/newtlaws/u2l3c.html
http://www.physicsclassroom.com/Class/newtlaws/u2l3d.html

MOP Connection: Newton's Laws: sublevels 8 and 9

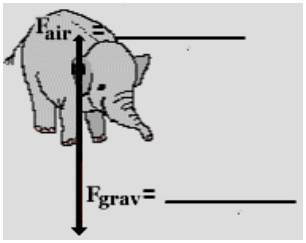
Free-body diagrams are shown for a variety of physical situations. Use Newton's second law of motion ($\sum F = m \bullet a$) to fill in all blanks. Use the approximation that g = ~10 m/s/s.

a.



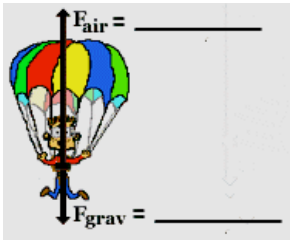
m=_____
a=_____
ΣF=_____

b.



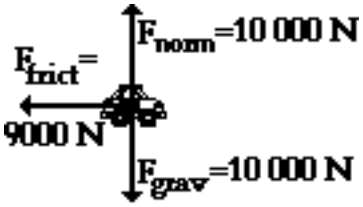
m=10000 kg
a = 8.0 m/s/s, down
ΣF = _____

c.



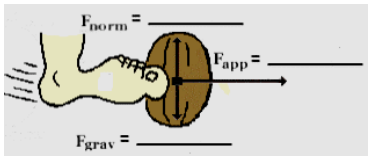
m=800 kg
a = 6.0 m/s/s, up
ΣF = _____

d.



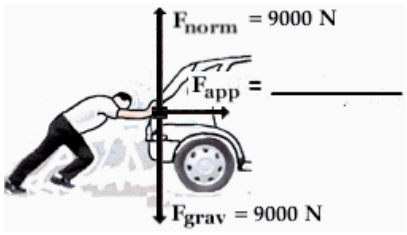
m=_____
a=_____
ΣF=_____

e.



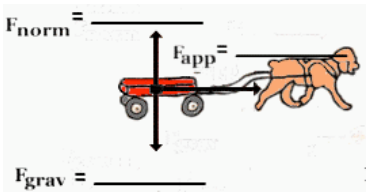
m=0.500 kg
a = _____
ΣF = 124 N, right

f.



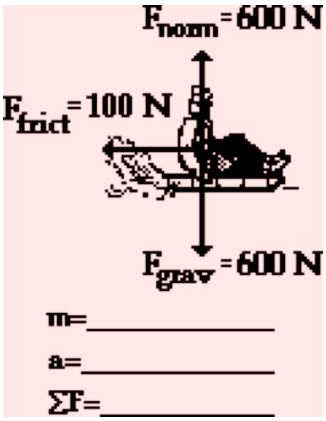
m= _____
a = 1.50 m/s/s, right
ΣF = _____

g.



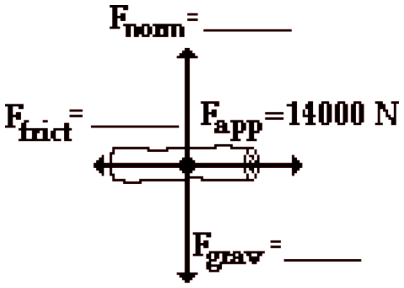
m=15.0 kg
a = 0.50 m/s/s, right
ΣF = _____

h.



m=_____
a=_____
ΣF=_____

i.



m=2000 kg
a= 2.0 m/s/s, right
ΣF=_____