Newton's Second Law

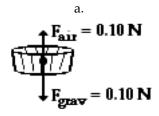
Read from Lesson 3 of the Newton's Laws chapter at The Physics Classroom:

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

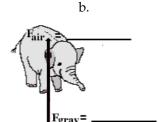
Free-body diagrams are shown for a variety of physical situations. Use Newton's second law of motion $(\Sigma F = m \cdot a)$ to fill in all blanks.



$$m = \underline{\hspace{1cm}} kg$$

$$a = \underline{\hspace{1cm}} m/s/s$$

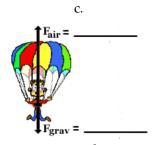
$$\Sigma F = \underline{\hspace{1cm}} N$$



m=10000 kg

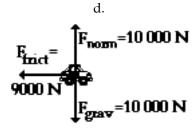
$$a = 8.0 \text{ m/s/s}, \text{ down}$$

 $\Sigma F = \underline{\hspace{1cm}}$



$$m=800 \text{ kg}$$

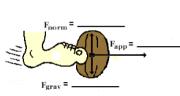
 $a = 6.0 \text{ m/s/s}, \text{ up}$
 $\Sigma F =$



$$m = \underline{\hspace{1cm}} kg$$

$$a = \underline{\hspace{1cm}} m/s/s$$

$$\Sigma F = \underline{\hspace{1cm}} N$$

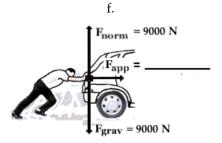


e.

$$m = 0.500 \text{ kg}$$

$$a = \underline{\hspace{1cm}}$$

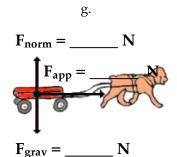
$$\Sigma F = 124 \text{ N, right}$$



$$m = \underline{\hspace{1cm}}$$

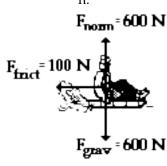
$$a = 1.50 \text{ m/s/s, right}$$

$$\Sigma F = \underline{\hspace{1cm}}$$



$$m = 15.0 \text{ kg}$$

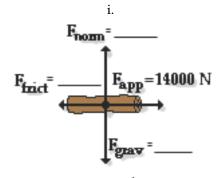
 $a = 0.50 \text{ m/s/s}, \text{ right}$
 $\Sigma F =$ ____



$$m = \underline{\hspace{1cm}} kg$$

$$a = \underline{\hspace{1cm}} m/s/s$$

$$\Sigma F = \underline{\hspace{1cm}} N$$



$$m = 2000 \text{ kg}$$

 $a = 2.0 \text{ m/s/s}, \text{ right}$
 $\Sigma F = \underline{\hspace{1cm}}$