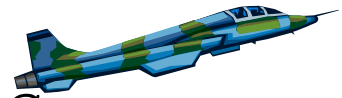


# FUN WITH FORCES

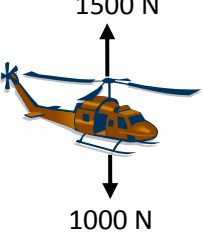
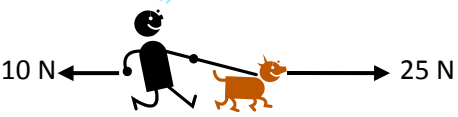

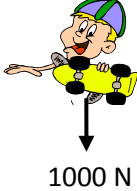



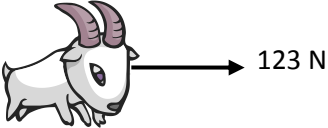

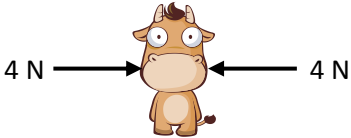
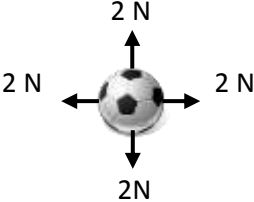
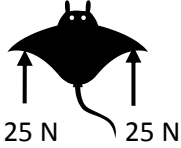


**PURPOSE:** To have fun learning about forces and to determine what happens to an object that experiences one or more forces. Remember, **force is a vector quantity** (it has both **magnitude** (size) and **direction**). To determine the **net force** (resulting force on an object) you need to **add** all the forces that are acting on the object together. In general forces to the **right** or **up** are considered **positive** and forces to the **left** or **down** are considered **negative**. The **net force** is always a **positive** amount. The **negative sign** just tells you the **direction** the object is moving (see above). **IMPORTANT:** The **direction the arrow points is the direction the force is applied**. It does not matter which side the number is on, just **which way the arrow points**.

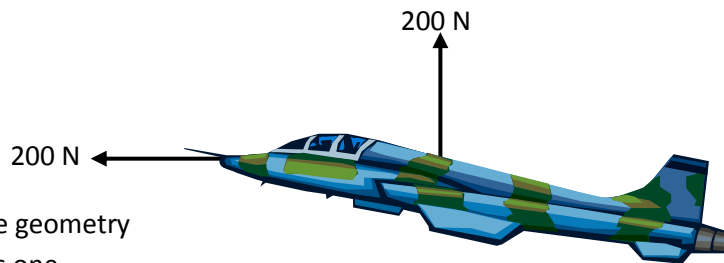
**DIRECTIONS:** Determine the following for each force diagram (free body diagram):

1. Draw each force diagram (including the arrows).
2. What is the **net force** acting on each object? (**show your work** and the correct unit (Newton))
3. Are the forces **balanced** or **unbalanced**? (**YES** or **NO**)
4. **Which way** will the object move? (**Left, Right, Up, Down, or Stay Still**)

1.		7.	
2.		8.	
3.		9.	
4.		10.	
5.		11.	
6.		12.	

13		19	
14		20	
15		21	
16		22	
17		23	
18		24	

**BONUS:**



Hint: You need to use geometry to calculate this one.