

SPH4C: Representing Forces Homework

Complete the chart for each situation. In some cases, there is more than one possible correct answer.

	Description	Sketch	Motion Diagram	Force Diagram	Newton's 2 nd Law
1	A rock has a book resting on top of it. System = rock				$F_{net,y} = ma_y$ $F_{n,book} - F_g - F_{n,rock} = 0$
2	A tasty chocolate in your hand is moving upwards and is slowing down as it approaches your mouth. System = chocolate				$F_{net,y} = ma_y$ $F_g - F_n = ma$
3	a cat is being pushed and is speeding up. system = cat				$F_{net,y} = 0$ $F_n - F_g = 0$ <hr/> $F_{net,x} = ma_x$ $F_p - F_f = ma_x$
4	A text is held up against the wall by pushing on it. System = Physics text				$F_{net,x} = 0$ $F_{n1} - F_{n2} = 0$ <hr/> $F_{net,y} = 0$ $F_f - F_g = 0$
5	A cat is being pulled by two ropes in opposite direction. It is speeding up. system = cat.				$F_{net,y} = 0$ $F_n - F_g = 0$ <hr/> $F_{net,x} = ma_x$ $F_{T1} - F_{T2} = ma_x$
6	A cat is sliding on a surface and is slowing down. system = cat.				$F_{net,x} = ma_x$ $F_f = ma_x$ <hr/> $F_{net,y} = ma_y$ $F_n - F_g = 0$
7	You hold a bag of groceries by the handle while standing in an elevator that starts from the ground floor and speeds up. System = bag				$F_{net,x} = 0$ <hr/> $F_{net,y} = ma_y$ $F_T - F_g = ma_y$