

Name: Key

* Use for checkpoint quiz

Free- Body Diagram Practice:

tomorrow.

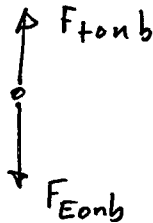
Everyone do #s 1-5

Have teacher come check if you get an E you can move on to the remaining problems

If you get an S on your paper, come up front for extra small group practice with your teacher.

1. A book is at rest on a tabletop. Diagram the forces acting on the book.

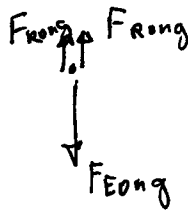
$v = 0$



System: book
forces: gravity
table

2. A gymnast holding onto a bar, is suspended motionless in mid-air. The bar is supported by two ropes that attach to the ceiling. Diagram the forces acting on the combination of gymnast and bar.

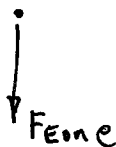
$v = 0$



System: gymnast
forces: Ropes(2)
gravity

3. An egg is free-falling from a nest in a tree. Neglect air resistance. Diagram the forces acting on the egg as it is falling.

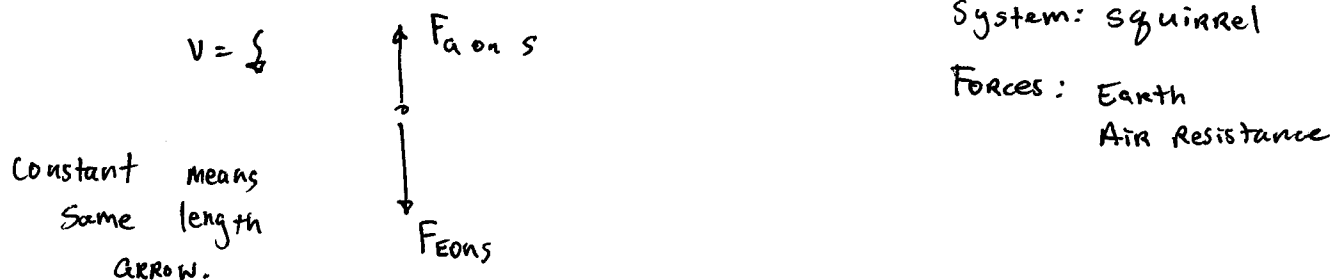
$v = \downarrow$



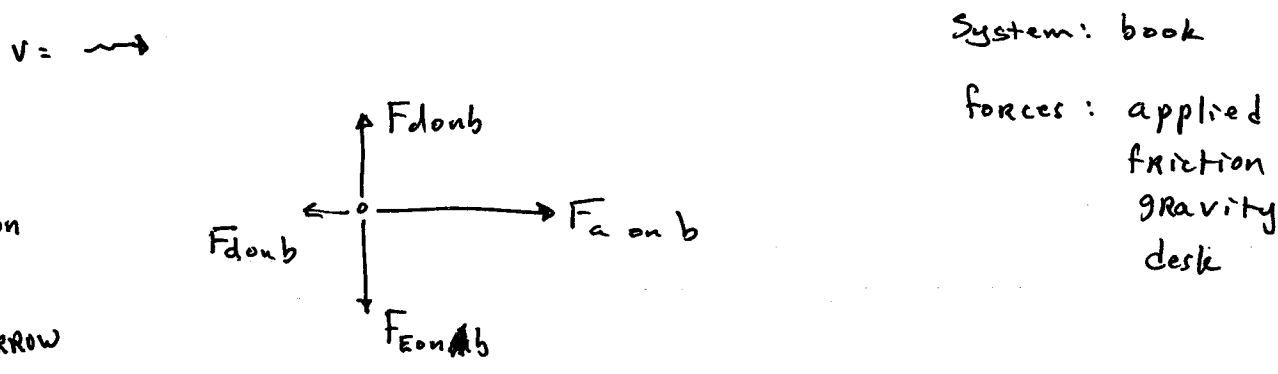
system: egg
forces: gravity

Name: _____

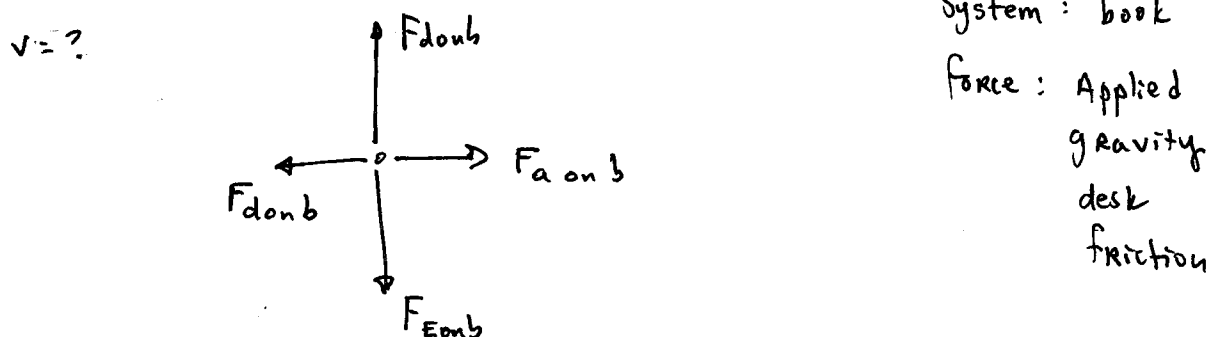
4. A flying squirrel is gliding (no wing flaps) from a tree to the ground at constant velocity. Consider air resistance. Diagram the forces acting on the squirrel.



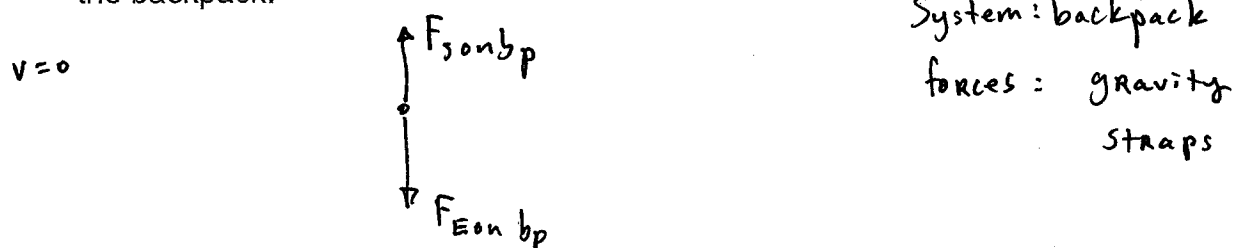
5. A rightward force is applied to a book in order to move it across a desk with a rightward acceleration. Consider frictional forces. Neglect air resistance. Diagram the forces acting on the book.



6. A rightward force is applied to a book in order to move it across a desk at constant velocity. Consider frictional forces. Neglect air resistance. Diagram the forces acting on the book.



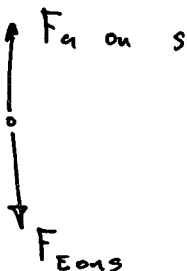
7. A college student rests a backpack upon his shoulder. The pack is suspended motionless by one strap from one shoulder. Diagram the vertical forces acting on the backpack.



Name: _____

8. A skydiver is descending with a constant velocity. Consider air resistance.
Diagram the forces acting upon the skydiver.

$v = \downarrow$

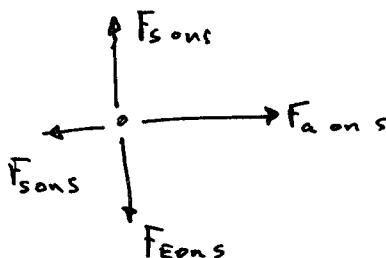


System: skydiver

forces: gravity
air resistance

9. A force is applied to the right to drag a sled across loosely packed snow with a rightward acceleration. Neglect air resistance. Diagram the forces acting upon the sled.

$v = \rightarrow$

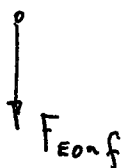


System: sled

forces: applied
gravity
friction
snow

10. A football is moving upwards towards its peak after having been *booted* by the punter. Neglect air resistance. Diagram the forces acting upon the football as it rises upward towards its peak.

$v = \uparrow$

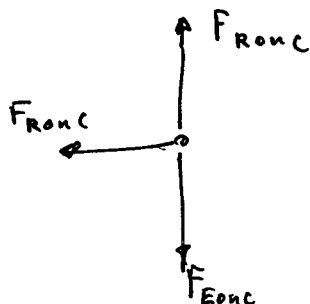


System: football

forces: gravity

11. A car is coasting to the right and slowing down. Neglect air resistance. Diagram the forces acting upon the car.

$v = \rightarrow$



System: car

forces: ~~car~~ friction
gravity
road

