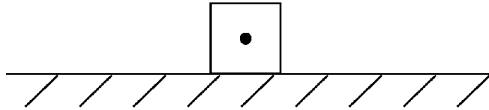


1. Base your answer to the following question on the information below.

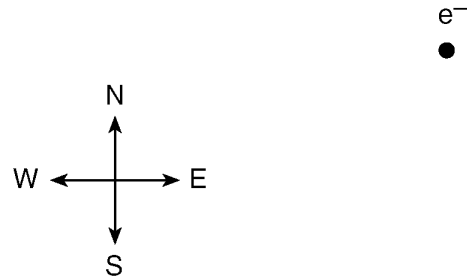
A force of 10. Newtons toward the right is exerted on a wooden crate initially moving to the right on a horizontal wooden floor. The crate weighs 25 Newtons.



- a* Calculate the magnitude of the force of friction between the crate and the floor.
- b* On the diagram, draw and label all vertical forces acting on the crate.
- c* On the diagram, draw and label all horizontal forces acting on the crate.
- d* What is the magnitude of the net force acting on the crate?
- e* Is the crate accelerating? Explain your answer.

2. Base your answer to the following question on the information below.

A force of 6.0×10^{-15} Newton due south and a force of 8.0×10^{-15} Newton due east act concurrently on an electron, e^- .



- a* On the diagram, draw a force diagram to represent the *two* forces acting on the electron. (The electron is represented by a dot.) Use a metric ruler and the scale of 1.0 centimeter = 1.0×10^{-15} newton. Begin each vector at the dot representing the electron and label its magnitude in newtons.
- b* Determine the resultant force on the electron, *graphically*. Label the resultant vector *R*.
- c* Determine the magnitude of the resultant vector *R*.
- d* Determine the angle between the resultant and the 6.0×10^{-15} -newton vector.