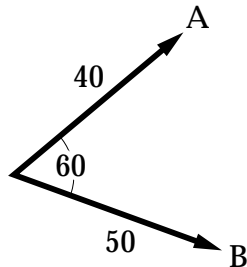


Example exam questions

1. Vectors **A** and **B** are shown. What is the magnitude of a vector **C** if $C = A - B$?



- a. 46
b. 10
c. 30
d. 78
e. 90
2. A rock is projected from the edge of the top of a building with an initial velocity of 12.2 m/s at an angle of 53° above the horizontal. The rock strikes the ground a horizontal distance of 25 m from the base of the building. Assume that the ground is level and that the side of the building is vertical. How tall is the building?
- a. 25.3 m
b. 29.6 m
c. 27.4 m
d. **23.6 m**
e. 18.9 m
3. A juggler throws two balls to the same height so that one is at the halfway point going up when the other is at the halfway point coming down. At that point:
- a. Their velocities and accelerations are equal.
b. Their velocities are equal but their accelerations are equal and opposite.
c. **Their accelerations are equal but their velocities are equal and opposite.**
d. Their velocities and accelerations are both equal and opposite.
e. Their velocities are equal to their accelerations.