Crate was moving to the right

Then, the guy pushed the crate

1. If the total force acts in the same direction as the crate is sliding, the crate

A. slows down
B. speeds up
C. remains at same speed
D. slows down, changes direction and then speeds up going the other way
E. remains at same speed, but changes direction

B There is a net force in the same direction as the initial velocity so acceleration in the same direction.

Cabinet was moving to the left

Then, the guy pushed the cabinet

2. If the total force acts in the opposite direction as the cabinet is sliding, the cabinet would

A. slow down
B. speed up
C. remain at same speed
D. slow down, change direction and then speed up going the other way
E. remain at same speed, but change direction

D. The total force is opposite the initial velocity. So acceleration is opposite the velocity which causes the cabinet to slow, stop and then start gaining speed in the opposite direction.

Refrigerator was moving to the right

Then, the guy pushed the refrigerator

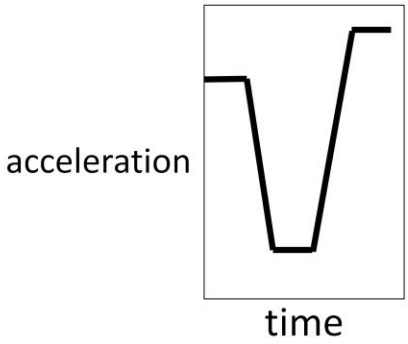
3. If there is zero total force acting on on the refrigerator, the refrigerator would

A. slow down
B. speed up
C. remain at same speed
D. slow down, change direction and then speed up going the other way
E. remain at same speed, but change direction

C. No net force so no acceleration. No change in speed.

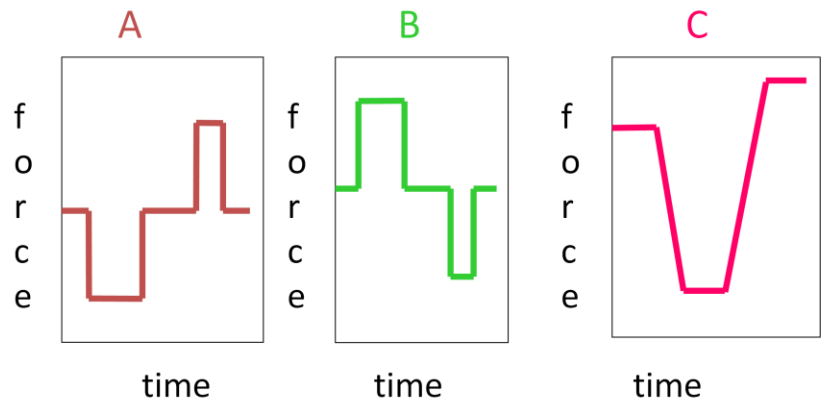
1. A car is traveling along a roa

acceleration is recorded as a function of time.



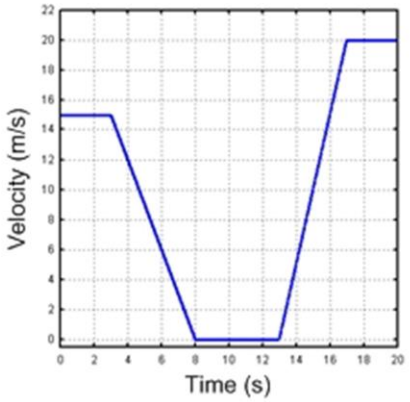
Have the students draw this

1. Which **<u>Total</u> force-time** graph would best match the scenario?



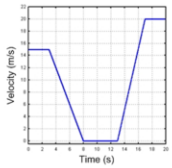
C, force and acceleration match shapes because F=MA

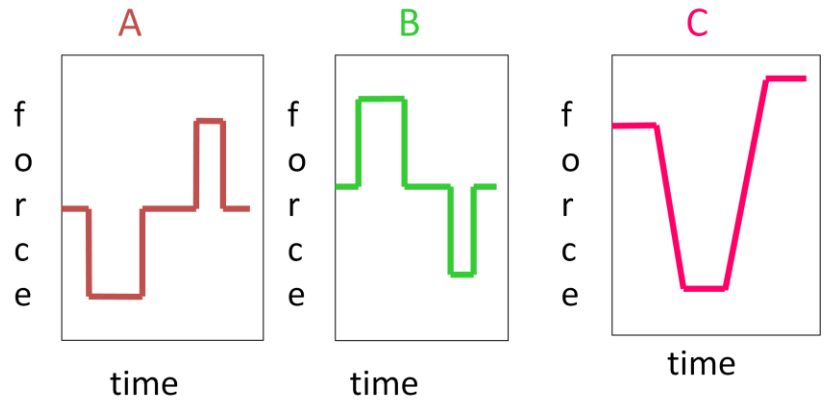
3. A car is traveling along a road. Its velocity is recorded as a function of time.



Have the students copy this, the numbers are not important, just note that velocity is positive the entire time

3. Which would be the **Total force-time** graph?





A matches the necessary forces