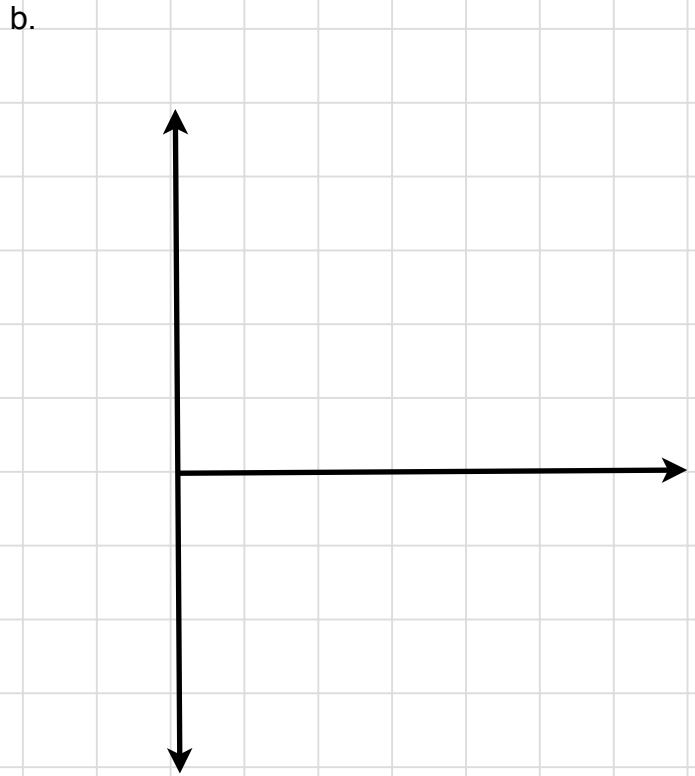
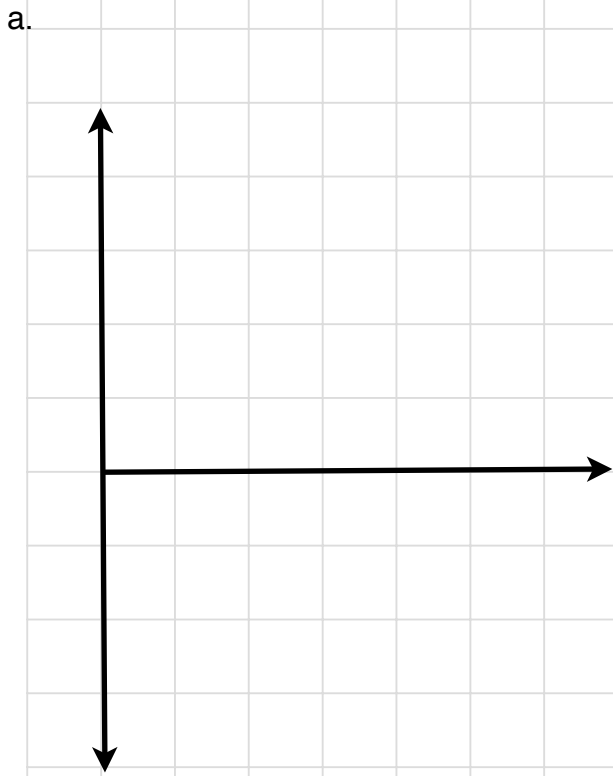
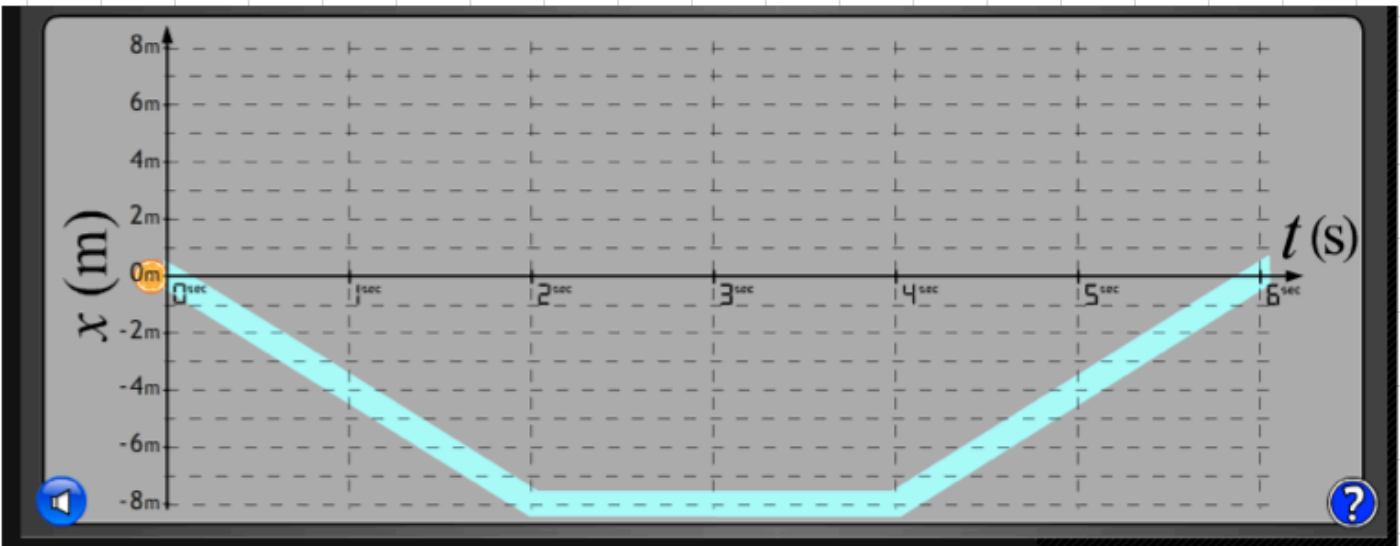


SHOW ALL WORK. INCLUDE PROPER LABELS, TITLES, AND UNITS.

HS.P.D.01 I can differentiate between position, distance, and displacement.

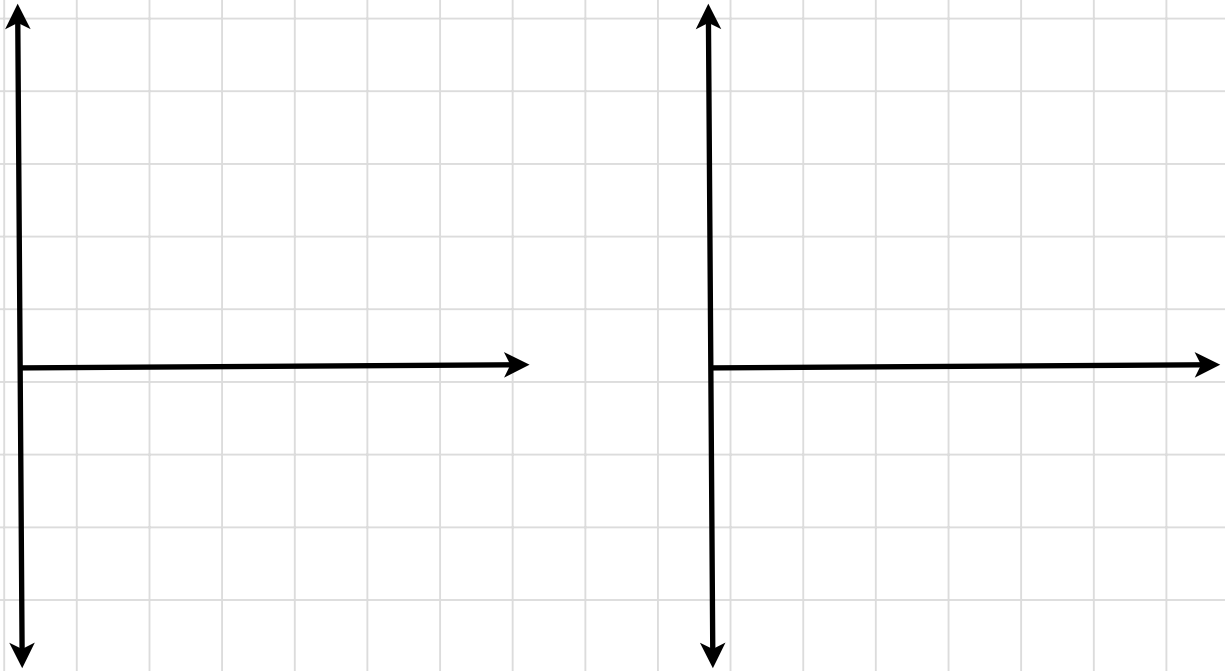


HS.P.D.02 For the motion of an object moving with a constant velocity I can recognize the features of a diagram that represent constant velocity vs. changing velocity.



HS.P.D.03	For the motion of an object moving with a constant velocity I can translate from one graph to another and describe the motion in words based on the graph.	
-----------	------------------------------------------------------------------------------------------------------------------------------------------------------------	--

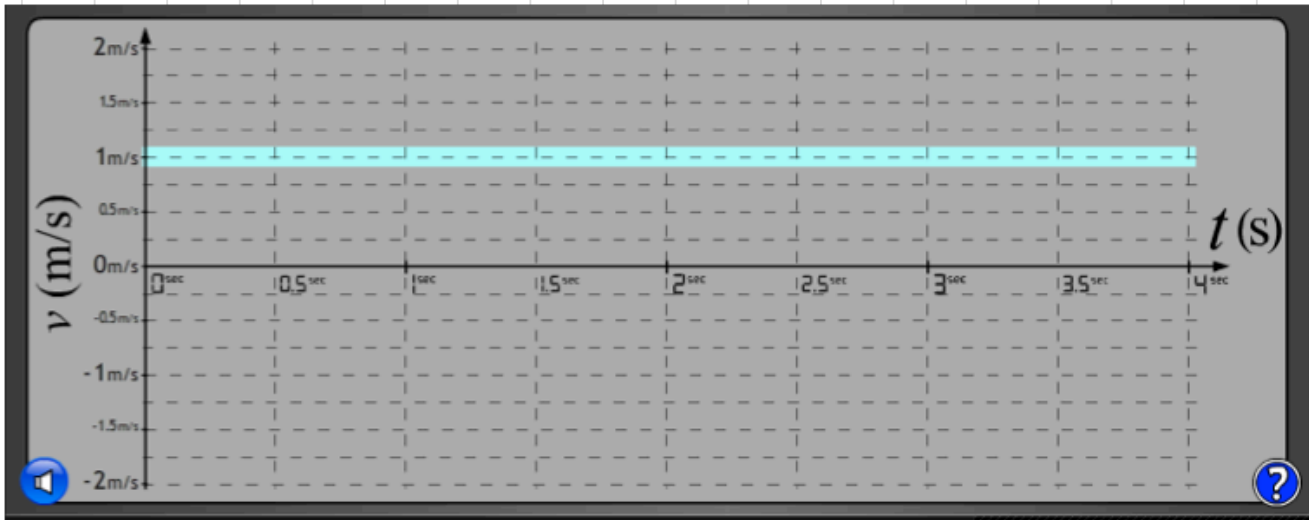
a.



b.

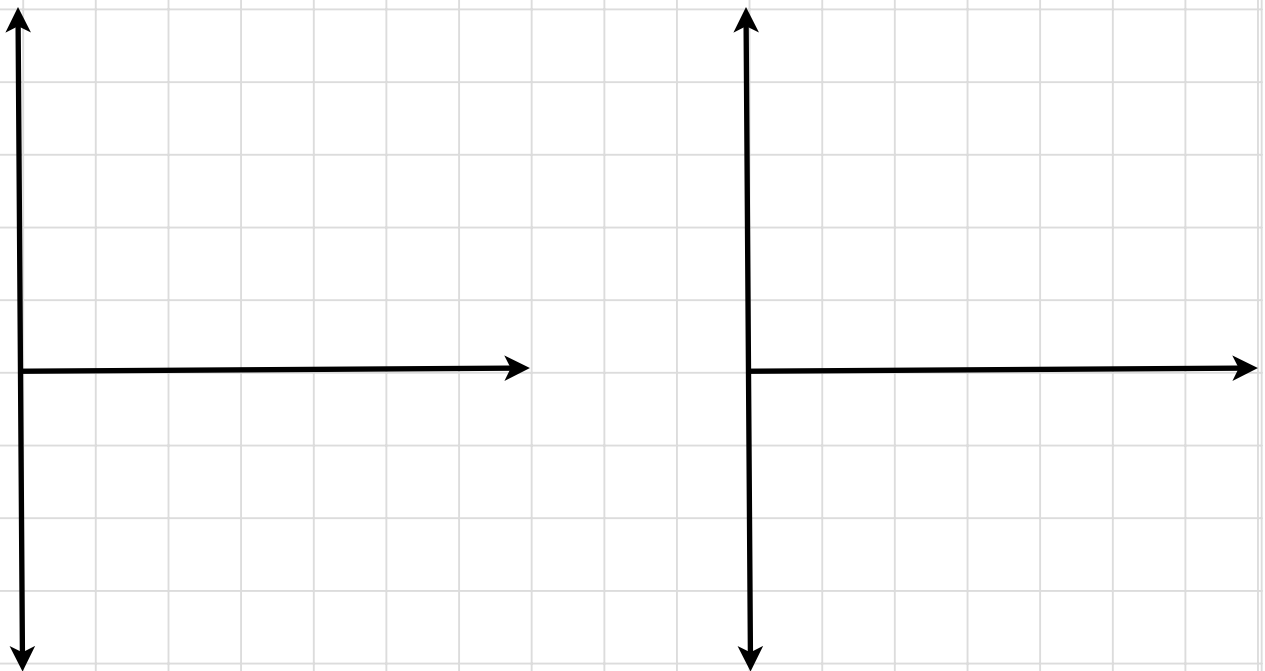
HS.P.D.04	For the motion of an object moving with a constant velocity I can find the average velocity using the slope of an x-t graph.	
-----------	------------------------------------------------------------------------------------------------------------------------------	--

HS.P.D.05 For the motion of an object moving with a constant velocity I can find the change in position using the area beneath a v-t graph.



a.

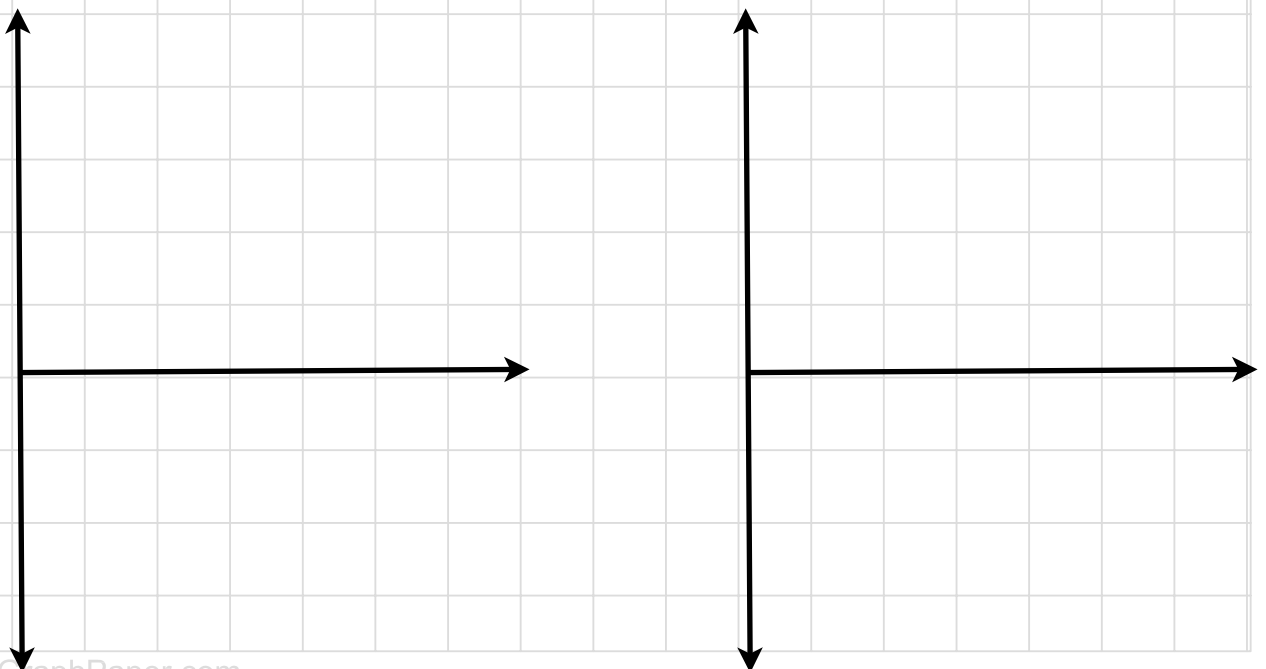
HS.P.D.06 For the motion of an object moving with a constant velocity I can draw and interpret position-vs-time graphs, velocity-vs-time graphs, & motion maps.



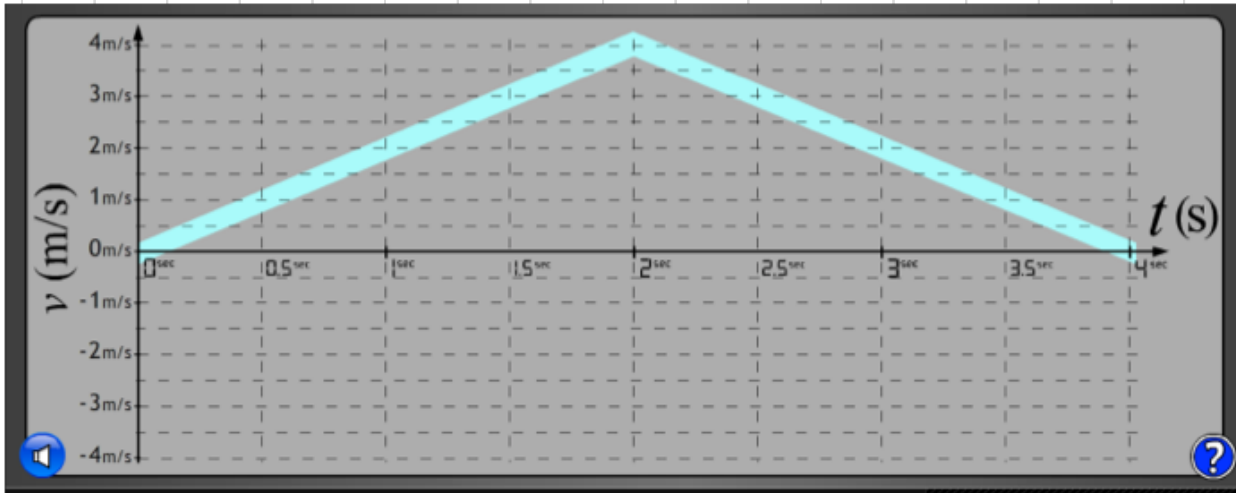
HS.P.D.07	I can solve problems involving average speed and average velocity.	

What you know (Variables)	
Formula	
Substitute (Variables in Formula)	
Calculations	
Answer	

HS.P.D.08	For the motion of an object moving with a changing velocity I can draw and interpret diagrams that includes position-vs-time graphs, velocity-vs-time graphs, and motion maps.	
-----------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--

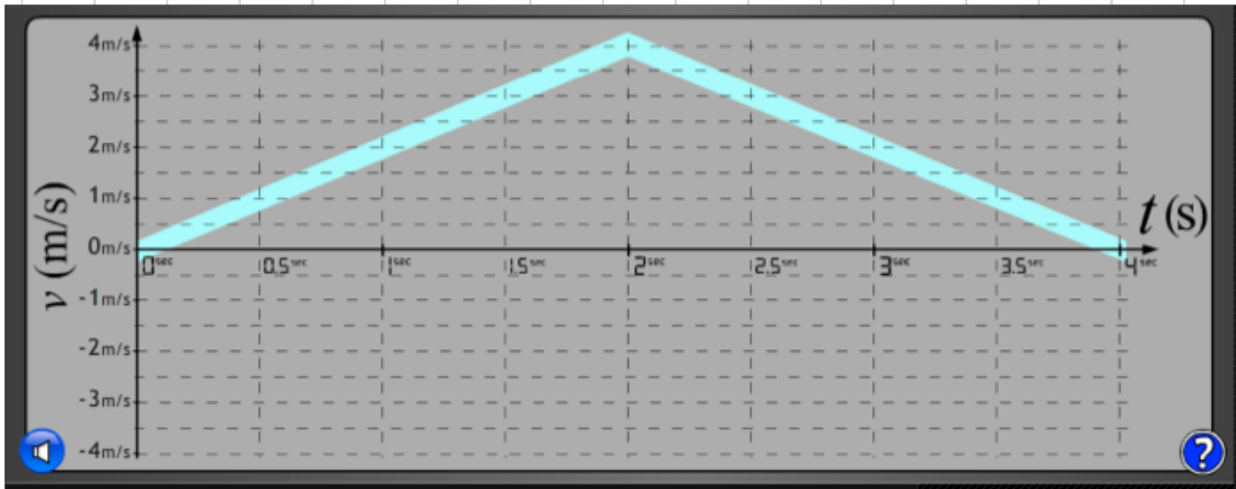


HS.P.D.10 For the motion of an object moving with a changing velocity I can find average acceleration from the slope of a v-t graph.



a.

HS.P.D.11 For the motion of an object moving with a changing velocity I can find change-in-position from the area beneath a v-t graph.



a.

HS.P.D.13	For the motion of an object moving with a changing velocity I can describe the motion of an object in words based on a motion diagram/graph.	
-----------	----------------------------------------------------------------------------------------------------------------------------------------------	--

a.

HS.P.D.14	I can differentiate between acceleration and velocity.	
-----------	--------------------------------------------------------	--

a.
b.

HS.P.D.15	I can differentiate between velocity and change-in-velocity.	
-----------	--------------------------------------------------------------	--

a.
b.

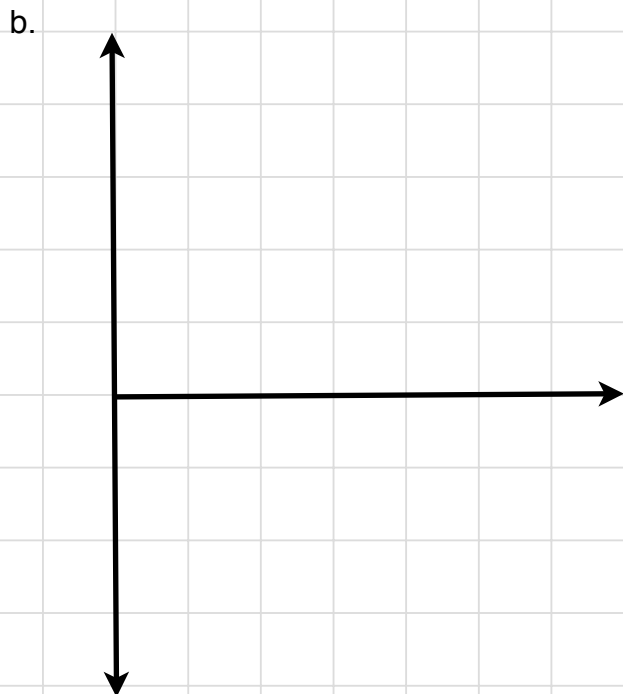
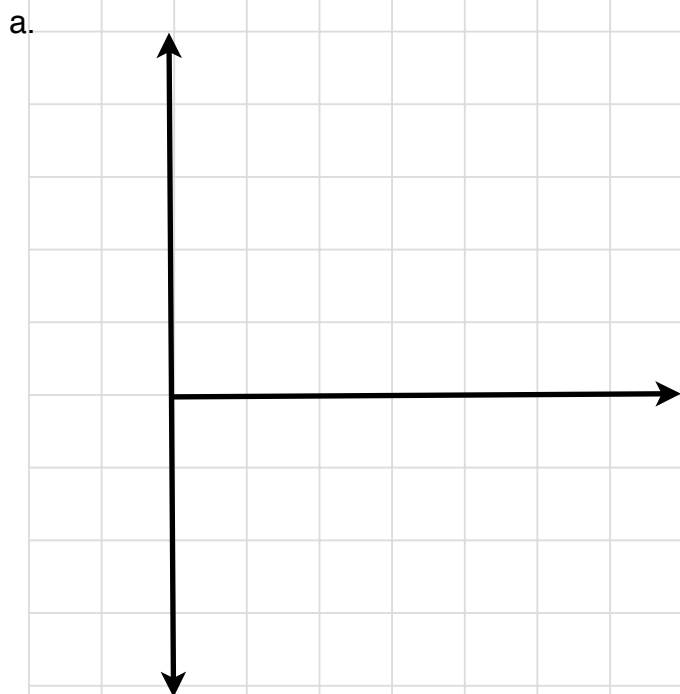
HS.P.D.19	I can solve problems using kinematics concepts.	
-----------	-------------------------------------------------	--

What you know (Variables)	
Formula	
Substitute (Variables in Formula)	
Calculations	
Answer	

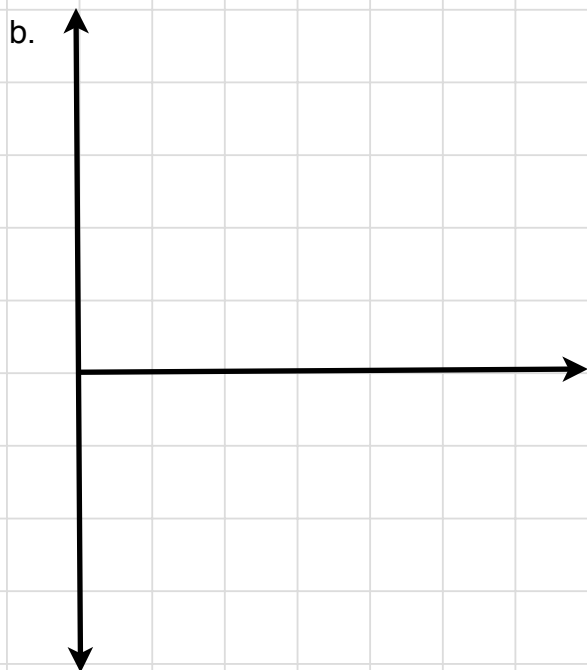
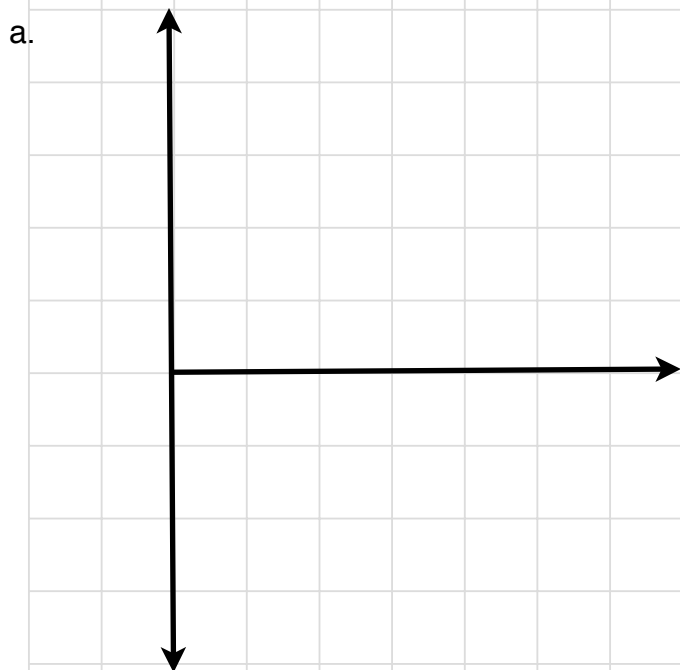
HS.P.D.21	I can solve problems for objects experiencing projectile motion with constant x-direction velocity and constant y-direction acceleration.	
-----------	-------------------------------------------------------------------------------------------------------------------------------------------	--

What you know (Variables)	a.	b.
Formula		
Substitute (Variables in Formula)		
Calculations		
Answer		

HS.P.D.22	For objects experiencing projectile motion I can draw separate graphs for the x-direction and y-direction components of position.	
-----------	-----------------------------------------------------------------------------------------------------------------------------------	--

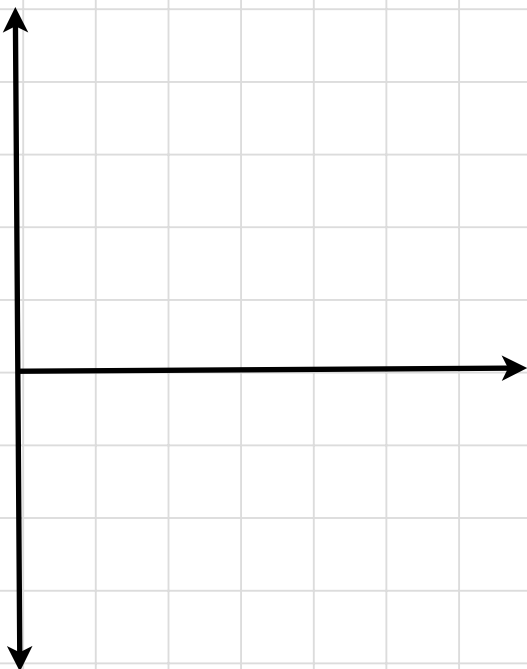


HS.P.D.23	For objects experiencing projectile motion I can draw separate graphs for the x-direction and y-direction components of velocity.	
-----------	-----------------------------------------------------------------------------------------------------------------------------------	--

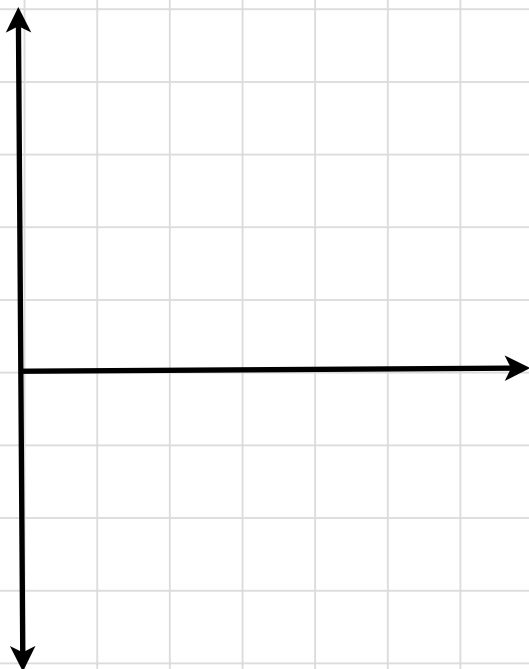


HS.P.D.24	For objects experiencing projectile motion I can draw separate graphs for the x-direction and y-direction components of acceleration.	
-----------	---------------------------------------------------------------------------------------------------------------------------------------	--

a.



b.



HS.P.F.25	I can draw a force vector addition diagram for an object representing the net force on the object.	
-----------	----------------------------------------------------------------------------------------------------	--

a.



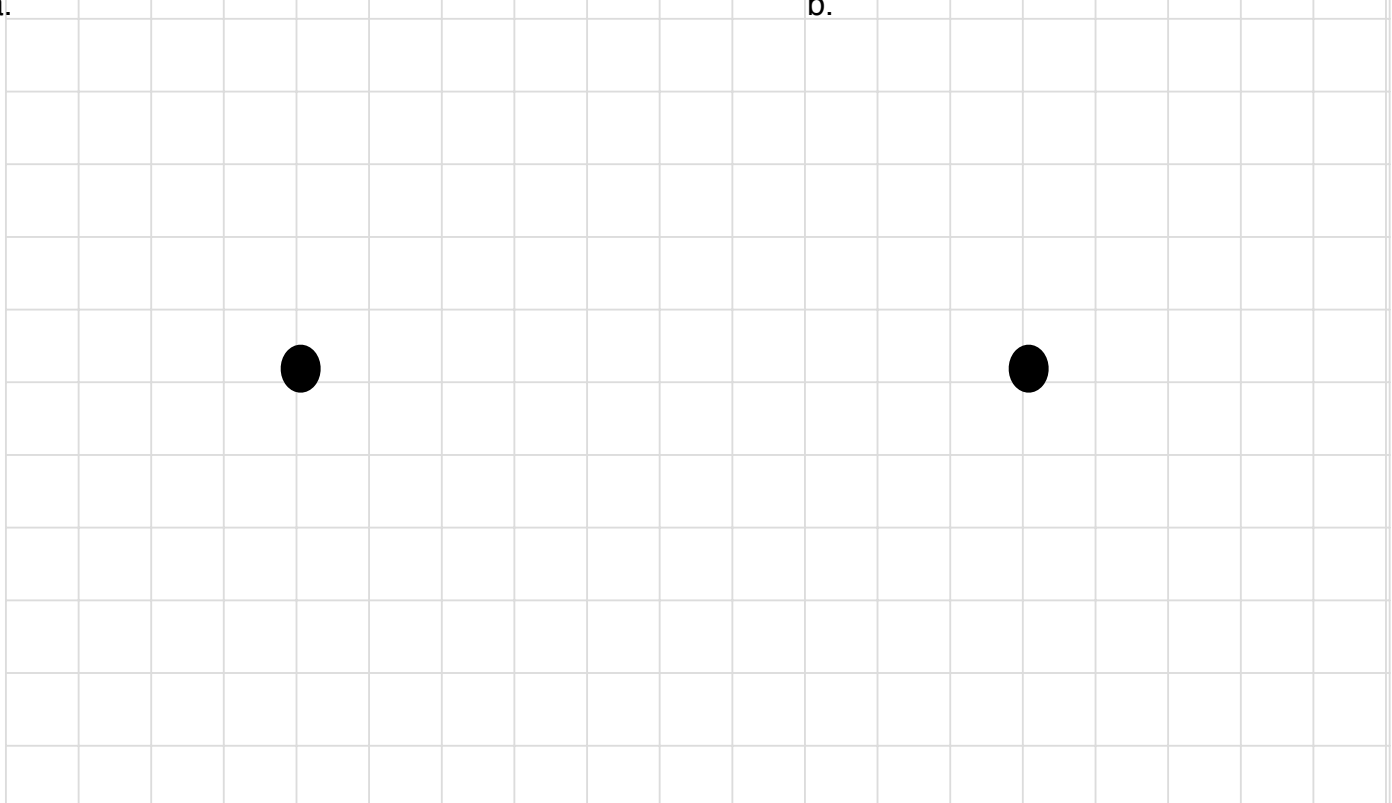
b.



HS.P.F.26	I can draw a properly labeled free body diagram showing all forces acting on an object.	
-----------	-----------------------------------------------------------------------------------------	--

a.

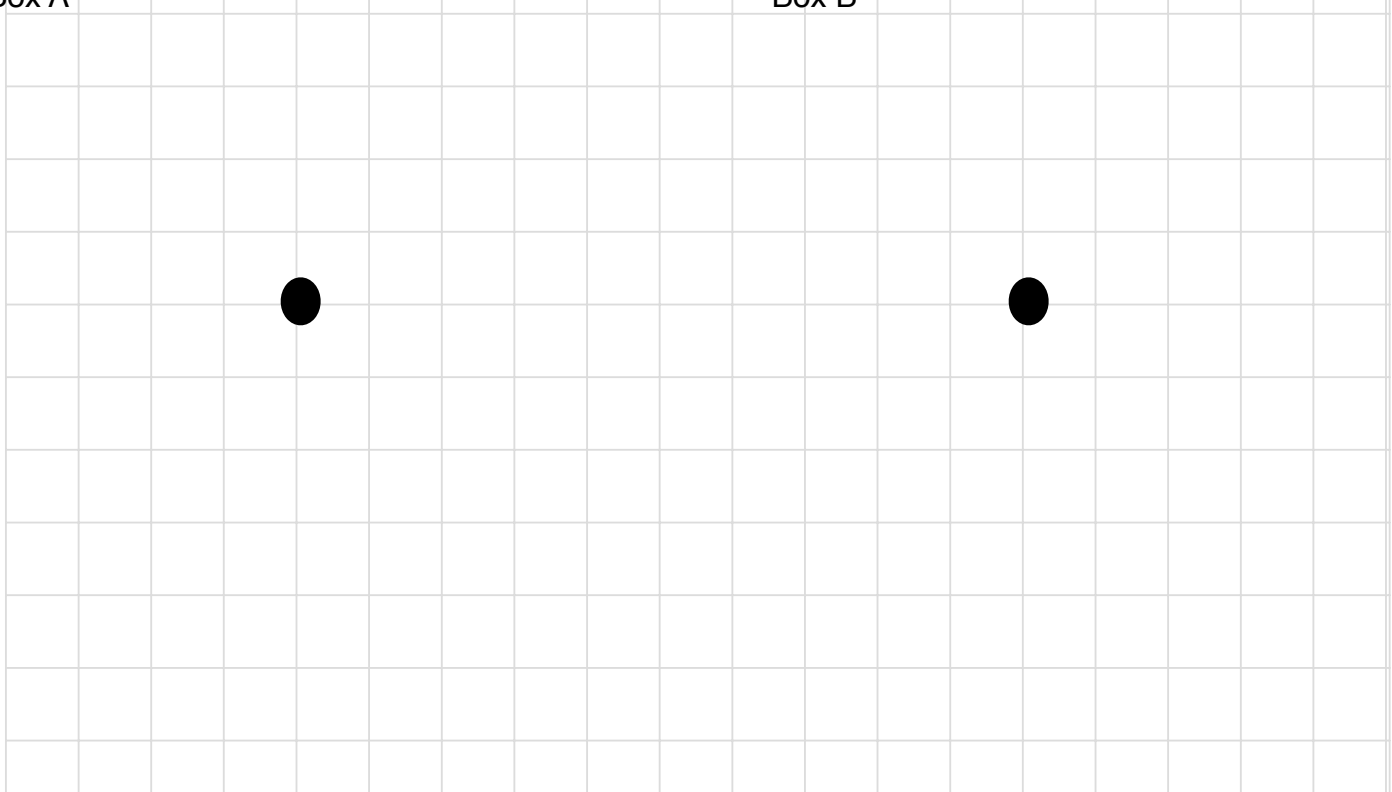
b.



HS.P.F.27	I can identify surrounding objects interacting with an object, and the forces they exert on the object.	
-----------	---------------------------------------------------------------------------------------------------------	--

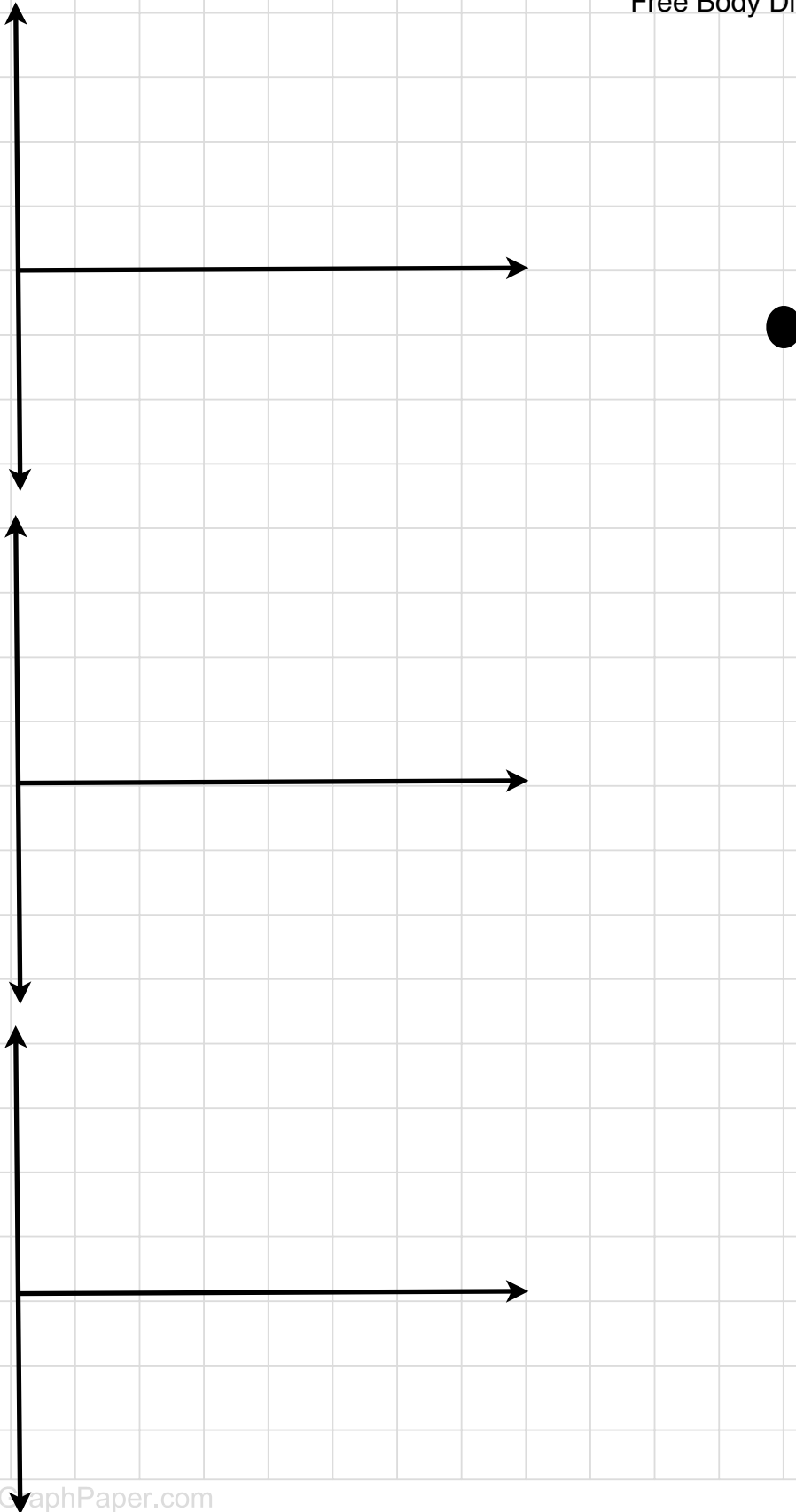
Box A

Box B



HS.P.F.28 I use multiple diagrams and graphs to represent objects moving at a changing velocity. For example: Motion graphs (x-, v-, a-t), motion map, free body diagram, vector addition diagram, system schema.

Free Body Diagram



HS.P.F.31	I can relate unbalanced forces to an object's changing motion.	
-----------	----------------------------------------------------------------	--

a.

b.

HS.P.F.32	I can determine the direction of the net force based on the object's motion.	
-----------	------------------------------------------------------------------------------	--

a. A car is traveling to the left and slows down to a stop.

Up	Down	Right	Left
----	------	-------	------

b. A sprinter starts from rest and is speeding up to the right.

Up	Down	Right	Left
----	------	-------	------

c. A rocket accelerates upward into space.

Up	Down	Right	Left
----	------	-------	------

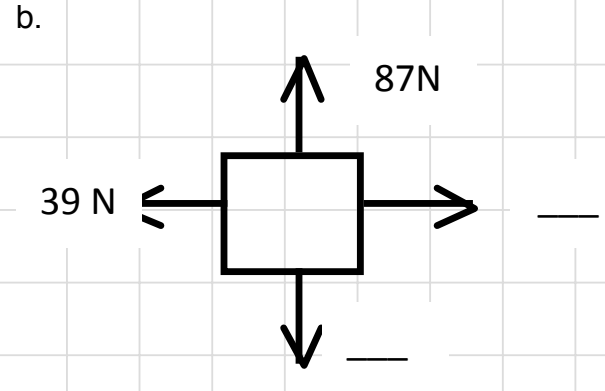
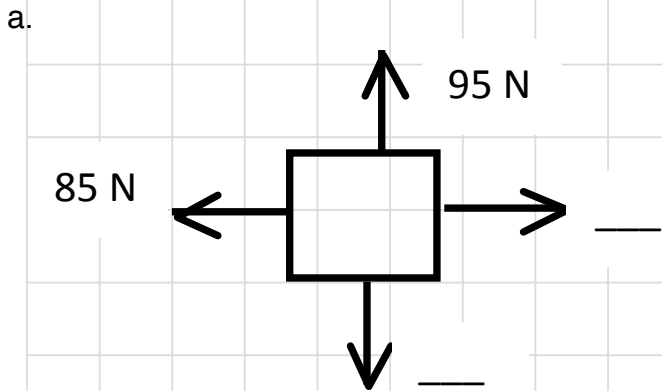
d. A skydiver falls from a plane through the air without a parachute.

Up	Down	Right	Left
----	------	-------	------

e. A skydiver deploys their parachute slowing them down on their descent.

Up	Down	Right	Left
----	------	-------	------

HS.P.F.33	I can use Newton's first law to quantitatively determine the forces acting on an object moving at a constant velocity.	
-----------	------------------------------------------------------------------------------------------------------------------------	--



HS.P.F.35	I can solve problems using Newton's 2nd Law ($F_{net} = ma$).	
-----------	-----------------------------------------------------------------	--

What you know (Variables)	
Formula	
Substitute (Variables in Formula)	
Calculations	
Answer	

