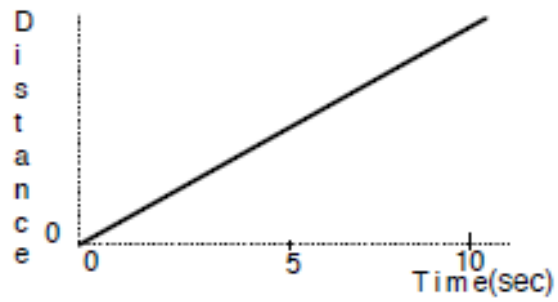
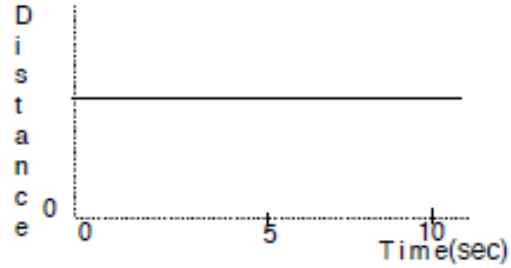
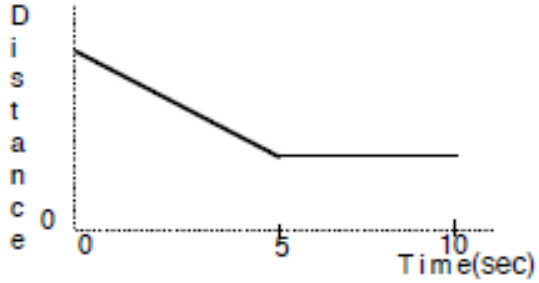
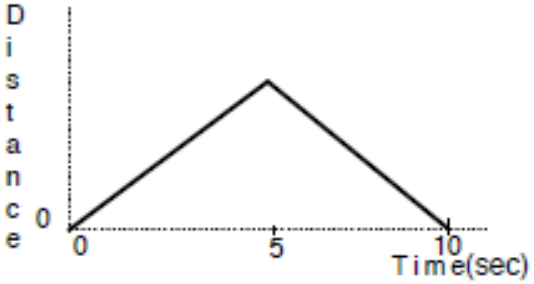
PRACTICE #2: DISPLACEMENT - TIME GRAPHS ANSWER KEY

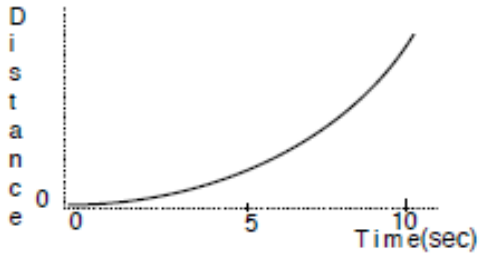
1. *Stand still*
2. *Walk at a steady (constant) speed away from the detector (origin)*
3. *Walk at a steady speed towards the detector*
4. *First walk quickly away from the origin at a steady speed. Then walk away more slowly (also steady speed)*
5. *First walk toward the detector, speeding up then slowing down. Then reverse direction, speed up, then slow down to come to rest.*
6.
    a. *Object B is moving faster*
    b. *A starts ahead (ahead means A starts further from the origin and both are moving away from the origin)*
    c. *Object A and B are at the same position at the same time (B is passing A)*
7.
    a. *Both has ABOUT the same speed (need quantitative marks to determine more accurately)*
    b. *B has a negative velocity*
8.
    a. *Object A is moving faster*
    b. *Object B starts ahead (They're both moving towards the origin and B starts closer to the origin)*
    c.
9. 

10. 

11. 

12. 

13.



PRACTICE #3: VELOCITY - TIME GRAPHS ANSWER KEY

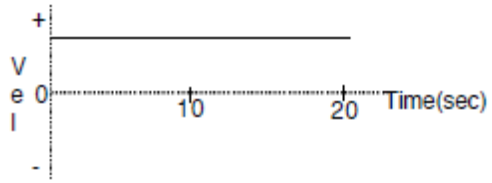
1. *Move away from the origin at a constant velocity*
2. *Move away from the origin speeding up at a constant rate*
3. *Move away from the origin slowing down at a constant rate*
4. *Move with a constant velocity towards the origin*
5. *Distance = 8 meters*
6.

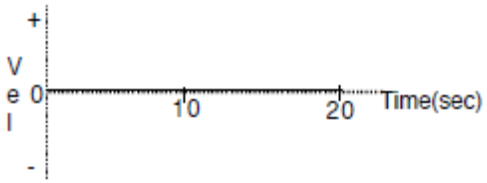
I

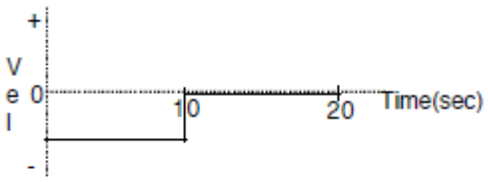
a. *A always moves faster*
b. *They are moving at the same speed at that moment in time*
c. *Can't tell (v-t graphs do not show starting position)*
d. *No – velocities do not change sign.*

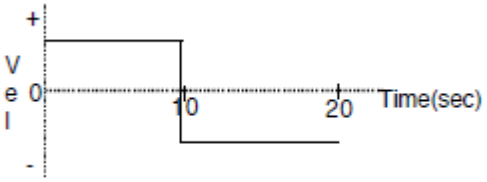
II

a. *First A, then B after the intersection*
b. *They are moving at the same speed at that moment in time*
c. *Can't tell (v-t graphs do not show starting position)*
d. *No – velocities do not change sign.*

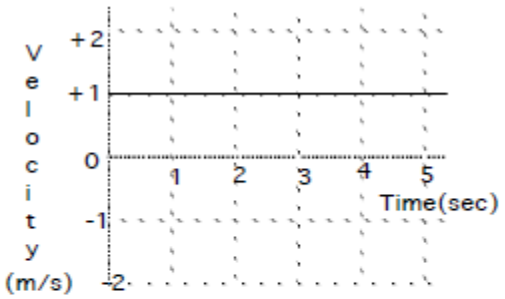
7. 

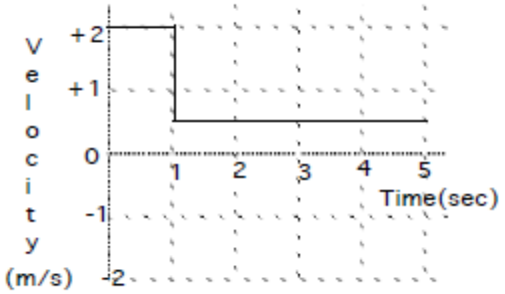
8. 

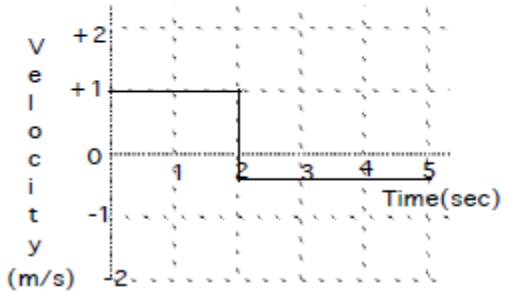
9. 

10. 

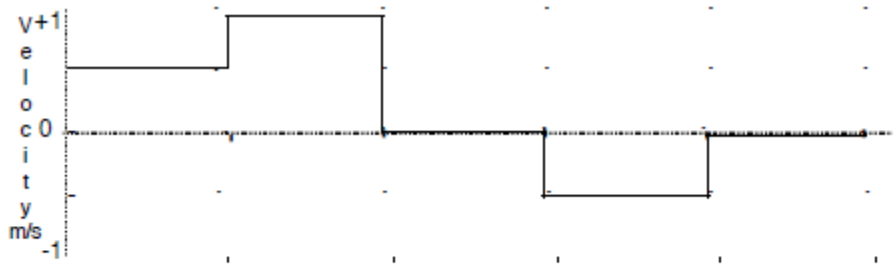
11.

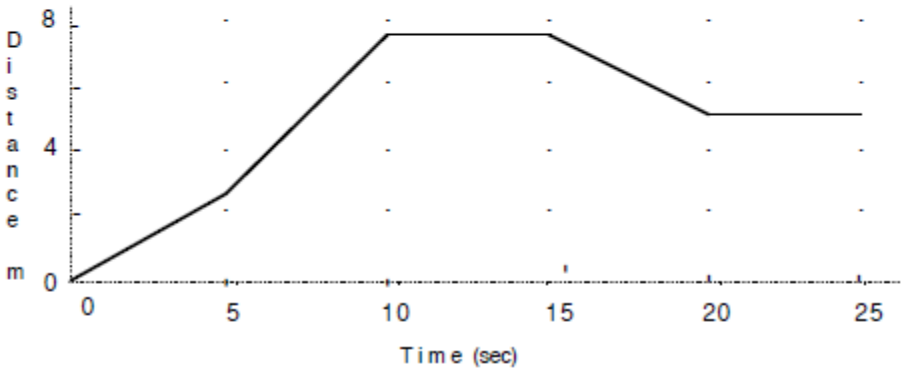

Velocity (m/s)
+2
+1
0
-1
-2
1
2
3
4
5
Time(sec)


Velocity (m/s)
+2
+1
0
-1
-2
1
2
3
4
5
Time(sec)


Velocity (m/s)
+2
+1
0
-1
-2
1
2
3
4
5
Time(sec)

12.


V+1
Velocity m/s
0
-1


Distance m
8
4
0
0
5
10
15
20
25
Time (sec)