**Kinematics Answer Key**

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Kinematics Quiz
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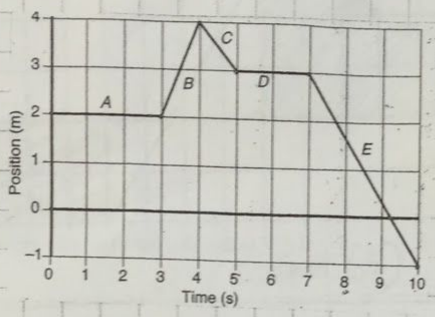
Period # 01

1




Very good

100

(a)

| | A | B | C | D | E |
|---|---|---|---|---|---|
| $\vec{d}$ | 0m | 2m | -1m | 0m | -4m |
| $V \frac{d}{t}$ | 0m/s | 2m/s | -1m/s | 0m/s | -1.33m/s |

(b) What is the displacement over entire trip?

$0+2+(-1)+0+(-4)=-3$

-3 meters

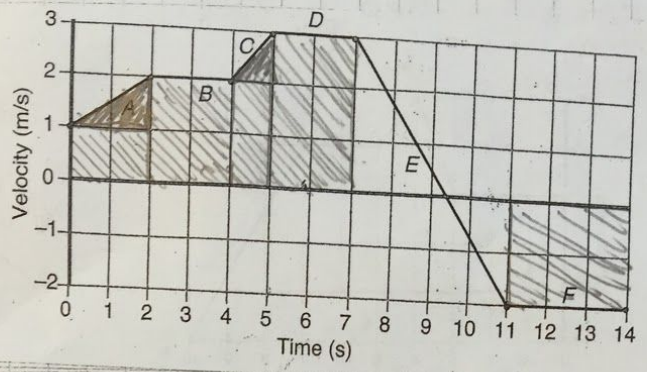
$(-1)-2=-3$ meter

(c) What is the Average velocity over entire trip?

-.3 m/s

24

2




$\frac{-2-3}{1-7}$

$\frac{-5}{4}$

(a)

| | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| $\vec{v}$ $\frac{v_f+v_i}{2}$ | 1.5 m/s | 2 m/s | 2.5 m/s | 3 m/s | .5 m/s | -2 m/s |
| $\vec{a}$ $\frac{\Delta v}{t}$ | .5 m/s² | 0 m/s² | 1 m/s² | 0 m/s² | -1.25 m/s² | 0 m/s² |
| $\vec{d}_A$ $(\bar{v})(\Delta t)$ | 3 m | 4 m | 2.5 m | 6 m | 2 m | -6 m |
| $\vec{d}_G$ $\frac{1}{2}bh+bh$ | 2+1 3 m | 2×2 4 m | 2+.5 2.5 m | 3×2 6 m | 2 m | -2×3 -6 m |

= 11.5

25

(b) When does the object come to rest? btwn 9 and 10

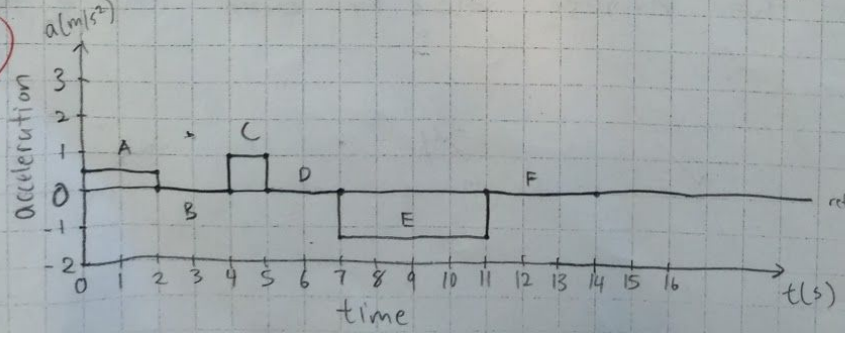
(c) When does object reverse direction btwn 9 and 10

(d) displacement over entire trip 11.5 m

(e) Average velocity over entire trip 11.5/14 mpers

(3) Convert above V(T) grap to a(t) graph.

25

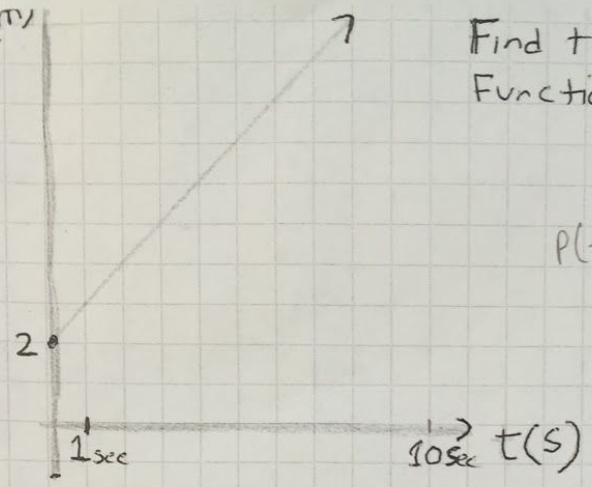



good

reference line

(4)

(a)

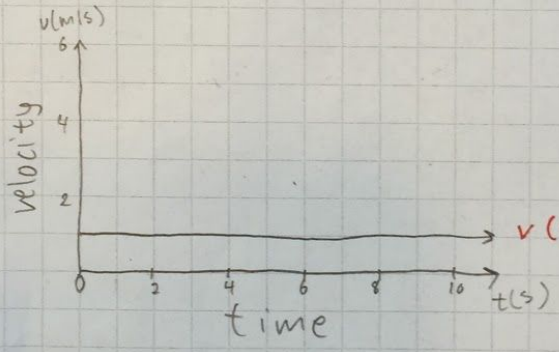



Find the position Function.

+1

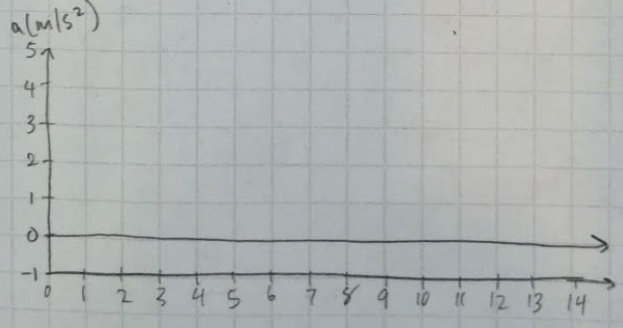
$p(t) = t + 2$ good

(b) Convert it to VT graph.




$v(t) = 1$ m/s

(c) Convert it to AT graph.




25 +2

$a(t) = 0$ m/s²

good