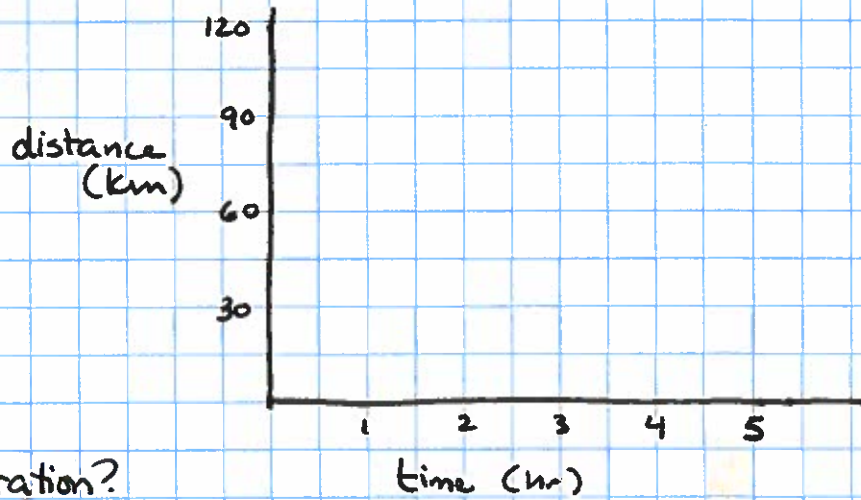


PHYSICS 11 ~ FINAL EXAM REVIEW ~ KINEMATICS

Name: _____

- ① A vehicle travels at a constant 20 km/hr.
Graph this:

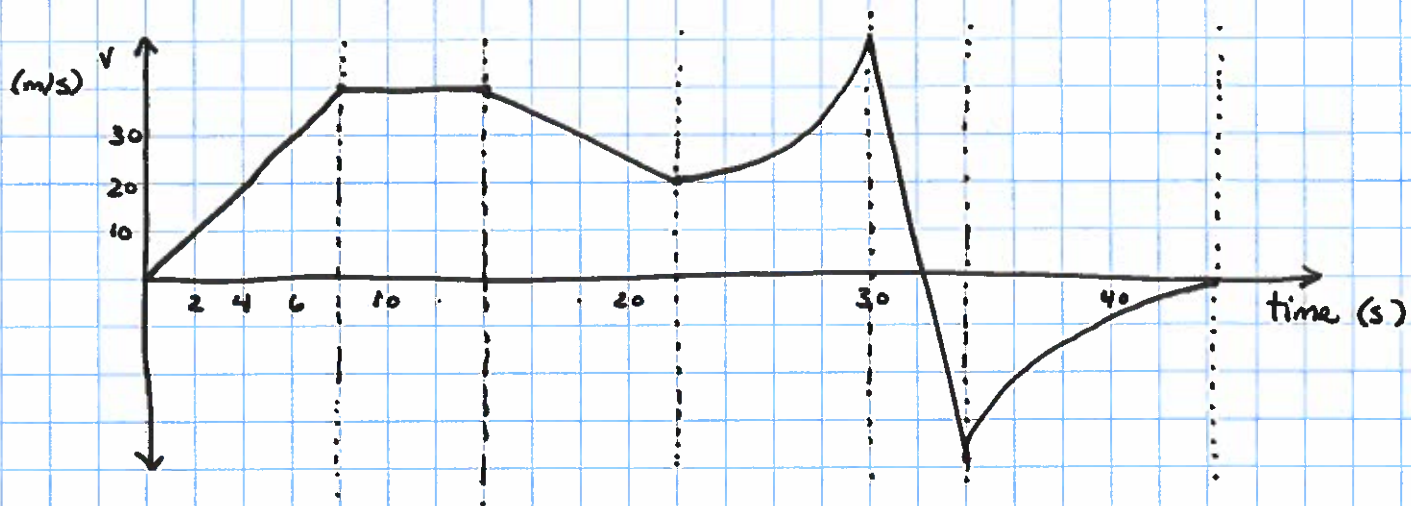


- a) Where will they be at $t = 10$ hr?
- b) What is their average acceleration?
- c) What is their speed in m/s?
- ② A person accelerates from 0.7 m/s to 2.3 m/s over the course of 5 sec.
- a) What is their average acceleration?
- b) What is their average velocity?
- c) What distance do they travel in this time?

③ A cyclist travels as shown on the graph below.
State whether

a) acceleration is pos, neg, or 0

b) velocity is increasing, decreasing or constant
on each interval.



a) a

b) v

c) \bar{a} from $t=8$ to $t=14$ s

d) \bar{a} from $t=8$ to $t=22$ s

e) Find the distance traveled from $t=0$ to $t=8$ s.

f) Find \bar{v} from $t=30$ to $t=34$ s

④ a) If you travel from here to the airport in 8.0 minutes, what is your average velocity?

b) What is your average speed, approximately?

⑤ What is my displacement if I go 12 m north, then turn 36° right and go 21 more metres?

⑥ A vehicle traveling at 95 km/hr takes 7.2 s to come to a complete stop.

a) What is its average acceleration?

b) How much time does it take to stop?

c) How far does it travel before stopping?

7) A banana is thrown out a window horizontally, with a velocity of 14.2 m/s . It takes 0.92 s to fall to the ground.

a) How high is the window?

b) How far from the building does the banana land?

c) What is v_{ix} ?

v_{iy} ?

d) What is v_{fx} ?

v_{fy} ?

v_f ? (Make a sketch of the components)

8) The wheel falls off a plane traveling at 212 m/s east. If the plane is traveling horizontally at an altitude of $8,236 \text{ m}$,

a) how long will the wheel take to fall, assuming no friction?

b) Will the wheel land ahead of, behind, or right below the plane? Why?

c) What would change if we introduced air resistance?

9) a) Sidney runs up a staircase 9.0 feet high and 11 feet across. What is her displacement?

b) She runs back down. What is her
i) distance travelled?

ii) total displacement?