Quizlet

DATE
~~NAME~~ _____

29 Matching questions

1. q What does t represent in particle motion?
   time
2. l or t When the acceleration of a particle is negative, what does that mean for the particle's velocity?
   a(t) < 0 → v(t) dec
3. g What equation(s) represent velocity?
   v(t) or x'(t)
4. h or i When is a particle moving to the right?
   positive velocity ↳ v(t) > 0
5. ac or f When the acceleration of a particle is positive, what does that mean for the particle's velocity?
   a(t) > 0 → v(t) inc
6. e Particle motion generally happens along which straight line?
   x-axis (y-axis for BC)
7. z When is the speed of a particle decreasing?
   a(t) & v(t) have different signs
8. n What equation(s) represents position?
   x(t)
9. w When velocity and acceleration have the opposite sign, what does that mean for the speed of a particle?
   Speed dec (diff signs)
10. s When velocity and acceleration have the same sign, what does that mean for the speed of a particle?
    Speed inc (same signs)
11. j or m When velocity is negative, what direction is a particle moving?
    v(t) < 0, particle moves left
12. i or h When velocity is positive, what direction is a particle moving?
    v(t) > 0, particle moves right
13. y What does a(t) determine?
    acceleration → how fast velocity changes
14. b What does x(t) represent?
    position of particle

a — |v(t)|

b — position of a particle

c — t=0
time is zero

d — ~~Integral of the absolute value of v(t) dt~~

e — x-axis

f — v(t) is increasing when a(t) is positive.

g — v(t)
x'(t)
~~integral (a(t)) dt~~

h — A particle moves to the right when v(t) is positive.

i — A particle is moving to the right when velocity is positive.

j — A particle is moving to the left when velocity is negative.

k — How fast the position of the particle is changing AND in what direction.

l — v(t) is decreasing when a(t) is negative.

m — A particle moves to the left when v(t) is negative.

n — x(t) or s(t)
~~integral (v(t)) dt~~
~~Integral (integral (a(t)) dt) dt~~

o — A particle changes direction when velocity changes sign.

p — velocity of a particle

q — time

r — Speed is increasing when velocity and acceleration have the same sign.

s — Speed is increasing.

15. [u] What does the phrase "at the origin" mean in particle motion? position is zero

16. [o] When does a particle change direction? velocity changes signs (pos to neg or neg to pos)

17. [ac or f] When is a particle's velocity increasing? v(t) inc → a(t) > 0

18. [ab] What does |v(t)| determine? speed

19. [v] What does a(t) represent?

20. [t or l] When is a particle's velocity decreasing? v(t) dec → a(t) < 0

21. [aa] What equation(s) represent acceleration? a(t) = v'(t) = x''(t)

22. [k] What does v(t) determine? velocity → how fast position changing

23. [p] What does v(t) represent? velocity

24. [a] How is the speed of a particle calculated?

25. [r] When is the speed of a particle increasing? a(t) + v(t) same signs

26. [x] What does the phrase "at rest" mean in particle motion? ↳ velocity is zero

27. [c] What does the phrase "initially" mean in particle motion? ↳ time = 0

28. [ ] ~~How is the total distance traveled by a particle calculated?~~

29. [m or j] When is a particle moving to the left? ↳ negative velocity

[t] velocity is decreasing when acceleration is negative

[u] x(t)=0
position is zero

[v] a(t) determines how fast the velocity of a particle is changing.

[w] Speed is decreasing.

[x] v(t)=0
velocity is zero

[y] acceleration

[z]

Speed is decreasing when velocity and acceleration have opposite signs.

[aa] a(t)
v'(t)
x''(t)

[ab] |v(t)| determines the speed of a particle

[ac] velocity is increasing when acceleration is positive