Linear Motion Review

Name _____

Date _____

Period _____

Convert the following five metric units to their equivalent

1. 5000 grams =
   a) 5 grams b) 500 kilograms c) 5 kilograms d) 0.5 kilograms
2. 753 millimeters =
   a) 0.753 centimeters b) 0.753 meters c) 7.53 meters d) 7.35 centimeters
3. 100 centimeters =
   a) 1 meter b) 1000 millimeters c) 0.001 kilometers d) a, b & c are correct
4. 1100 milliliters =
   a) 1 liter b) 1.100 liters c) 0.11 liters d) 11.00 liters
5. 5.345 kilometers =
   a) 5345 meters b) 5.345 meters c) 53.45 meters d) 53450 centimeters

6. _____ is relative?
   a) Distance b) motion c) temperature d) life
7. A car's odometer reads the cars?
   a) average velocity b) instantaneous velocity c) speed d) distance traveled
8. A car going from San Francisco to LA has a speed of 120km/h, what is its velocity?
   a) 120 km/h, north b)120 km/h, east c) 120 km/h, south d) 120 km/h, west
9. Rate is defined as how much something changes per unit _____?
   a) time b) volume c) distance d) velocity
10. When things speed up, slow down or change direction they are?
    a) traveling b) accelerating c) moving d) braking

Use the following tables to answer the questions below

Table A

Time (s)	Distance (m)
1	5
2	20
3	45
4	80

Table B

Time (s)	Distance (m)
1	20
2	40
3	60
4	80

Table C

Time (s)	Distance (m)
1	5
2	10
3	15
4	20

11. Which table indicates an object is accelerating?
    a) table A b) table B c) table C d) table D
12. Which table indicates an object moving at the highest constant velocity?
    a) table A b) table B c) table C d) table D
13. Which table indicates the distance an object would freefall?
    a) table A b) table B c) table C d) table D

14. If an object is going 10 m/s for 10 seconds, what is its rate of acceleration?
a) 0 m/s/s b) 10 m/s/s c) 100 m/s/s d) 1000 m/s/s

15. If an object is thrown straight up with a velocity of 70 m/s, how long will it take before that object hits the ground?
a) 70 seconds b) 7 seconds c) 14 seconds d) 21 seconds

16. Gravity always pulls things?
a) toward the center of earth b) perpendicular to earth's surface c) down

17. If a man drops his hammer from the top of a 410 meter building, how fast will the hammer be falling after five seconds?
a) 5 m/s b) 10 m/s c) 25 m/s d) 50 m/s

18. If a man drops his hammer from the top of a 410 meter building, what will the hammers acceleration be after five seconds?
a) 10 m/s/s b) 20 m/s/s c) 10 m/s d) 20 m/s

19. What is the proper unit to measure the distance from Antioch to San Francisco?
a) meters b) kilometers c) millimeters d) centimeters

20. What is the proper unit to measure the speed of a car?
a) m/s b) km/h c) km/s d) both a and b are appropriate

21. Solve this equation for t equation $d = \frac{1}{2} a t^2$ therefore t=?

22. If Jon runs 100 meters in 20 seconds, what is his average speed? Speed = distance/time

23. If a car accelerates from 10 m/s to 110 m/s in 10 seconds, what is the car's rate of acceleration? Acceleration = change in velocity/ time

24. If a rock falls for 10 seconds, how fast will the rock be going after nine seconds? Velocity = acceleration x time

25. If a rock falls for ten seconds, what is the distance the rock falls? $d = a t^2 / 2$

26. If a ball accelerates down a ramp a distance of nine meters in three seconds, what is the rate of acceleration? $a = 2d / t^2$