

REVIEW WORKSHEET – SPEED, VELOCITY, ACCELERATION

Speed and velocity

1. Define speed.
2. Define velocity
3. What is the formula for speed or velocity?
4. What is the unit of speed, if distance is in meters and time is in minute?
5. What is the speed of a truck that travels 10 km in 10 minutes?
6. What distance is traveled by a police car that moves at a constant speed of 1.5 km/minute for 5.0 minutes?
7. What is the average speed of a commercial jet that travels from New York to Los Angeles (4800 km) in 6.00 hours?
8. A comet is cruising through the solar system at a speed of 50,000 kilometers per hour for 4 hours time. What is the total distance traveled by the comet during this time?
9. How much time does it take for a bird flying at a speed of 45 miles per hour to travel a distance of 1,800 miles?

Acceleration

10. Define acceleration.
11. If velocity is in m/s and time is in sec, what is the unit of acceleration
12. Write the formula for acceleration.

13. An ice cream truck is moving along at 20 m/s and then increases its speed to 40m/s in 120 secs. What is its acceleration?

14. While drag racing out of our school parking lot, I time myself at a speed of 40 meters per second 7 seconds after starting. What was my acceleration during this time?

15. A cyclist accelerates from 0 m/s to 8 m/s in 3 seconds. What is his acceleration? Is this acceleration higher than that of a car which accelerates from 0 to 30 m/s in 8 seconds?

16. A roller coaster car rapidly picks up speed as it rolls down a slope. As it starts down the slope, its speed is 4 m/s. But 3 seconds later, at the bottom of the slope, its speed is 22 m/s. What is its acceleration?

17. A car advertisement states that a certain car can accelerate from rest to 70 km/h in 7 seconds. Find the car's acceleration.

18. What is gravity?

19. What is the value for acceleration due to gravity?

20. Why doesn't a coin and a feather hit the ground at the same time although they are thrown from the same height?

21. Name the 2 forces acting on any object and they do so in which direction.

22. Why does an object on the moon weigh $1/6^{\text{th}}$ compared to its weight on earth?