

Physical Science Motion and Forces Worksheet

1. What is the force on an object that goes from 35 m/s to 85 m/s in 20 seconds and has a mass of 148 kg?
2. Calculate the force on an object that has a mass of 12 kg and an acceleration of 4 m/s^2 .
3. During a race, a sprinter increases from 5.0 m/s to 7.5 m/s over a period of 1.25 s. What is the sprinter's average acceleration during this period?
4. A motorcycle has a mass of 250 kg and a velocity of 68 m/s, what is its momentum?
5. A 3,000-N force acts on a 200-kg object. The acceleration of the object is
6. A truck travels to and from a stone quarry that is located 2.5 km to the east. What is its distance? What is its displacement?
7. A cross-country runner runs 10 km in 40 minutes. What is his average speed?
8. A runner went from 6 m/s to 2 m/s in 2 seconds, what was his acceleration?
9. A dog travels 250 meters east in 8 seconds. What is the velocity of the dog?
10. A large truck loaded with scrap steel weighs 14 metric tons and is traveling north on the interstate heading for Chicago. It has been averaging 48 km/h for the journey and has traveled over 1450 km so far. **It has just stopped** to refuel. What is its current momentum?
11. James rode his bike 0.65 hours and traveled 8.45 km. What was his speed?
12. A 10-kg wagon has a speed of 25 m/s. What is its momentum?
13. A dog travels north for 18 meters, east for 8 meters, south for 27 meters and then west for 8 meters. What is the distance the dog traveled and what is the displacement of the dog?
14. Brittany drove at a speed of 85 km / hr south for 4 hours. How far did she travel?
15. What is the mass of an object that has a force of 89 N and an acceleration of 25 m/s^2 ?
16. What is the force acting on an object with a mass of 2489 kg and an acceleration of 6.25 m/s^2 ?
17. The driver of a pickup truck drove at a velocity of 75.0 km/h for 33 minutes. What distance did the bus travel?
18. A high speed train travels with an average speed of 227 km/h. The train travels for 2 h. How far does the train travel?
19. A 300-N force acts on a 25-kg object. The acceleration of the object is
20. A 10.0 kg dog chasing a rabbit north at 6.0 m/s has a momentum of
21. Newton's first law of motion is also called the law of ____