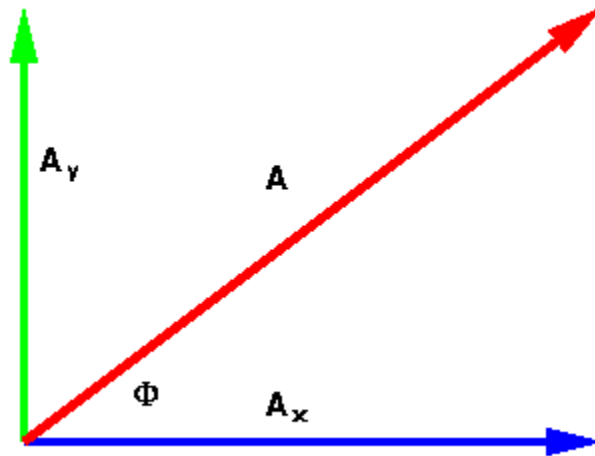


Vectors



If I walk 4 miles north, 6 miles south, 14 miles east, 4 miles south then 15 miles west.
How far did I displace myself?

6.08

If I walk 15 miles north, 4 miles east and 4 miles west how far did I displace myself?

15

Velocity



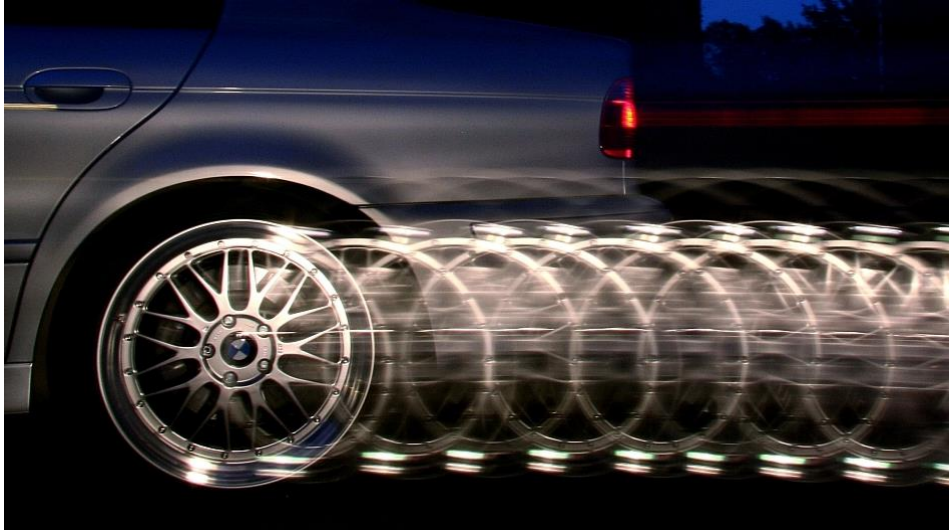
A cheetah runs at a constant 59 mph. As it runs across the plains for 10 minutes how far did it travel?

9.83 mi

A dolphin can swim 20 miles in 75 minutes how many miles per hours is this?

16

Acceleration



A car starting from rest at a stop light can travel up to 25 m/s in the span of 1 city block (274 meters).

What is the cars acceleration?

1.14

How long does this trip take?

21.9 sec

Impact Velocity



A meteor is spotted 30000 meters above the earth traveling at 13 m/s.

What is the acceleration of the meteor?

What will be the impact velocity if allowed to fall to earth?

766.9

How much time do we have to prepare for impact?

76 sec

Final Velocity



The Balrog pulls Gandalf down to the depths of the Mines of Moria.

If his whip pulls Gandalf downward at a velocity of 9 m/s how fast would he be traveling if he hit the bottom of the mineshaft (1400 meters)

165.65

How fast would Gandalf have fallen if he fell on his own accord?

Freefall



After learning about the truth of his lineage, Luke Skywalker plummets out of Cloud City. The Cloud City has an artificial gravity of 7.4 m/s^2 .

If the shaft he falls down is 45 meters high. How long does his decent take?

3.4

Without the aid of the Force™, how fast would Luke hit the bottom of the vent?

25.8