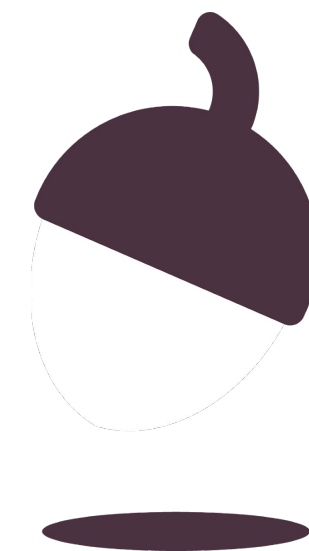


Stopping Distance

Mr Saville



OAK
NATIONAL
ACADEMY

Warm up

1. What is the equation linking acceleration, force and mass?
2. What is the equation linking acceleration, final velocity, initial velocity and time?
3. A car is travelling at 20 m/s when the lights turn to red. It takes 3.2 seconds to stop the car. Calculate the deceleration. Give the unit
4. The car has a mass of 22,000Kg. Calculate the force needed to stop the car. Give the unit.



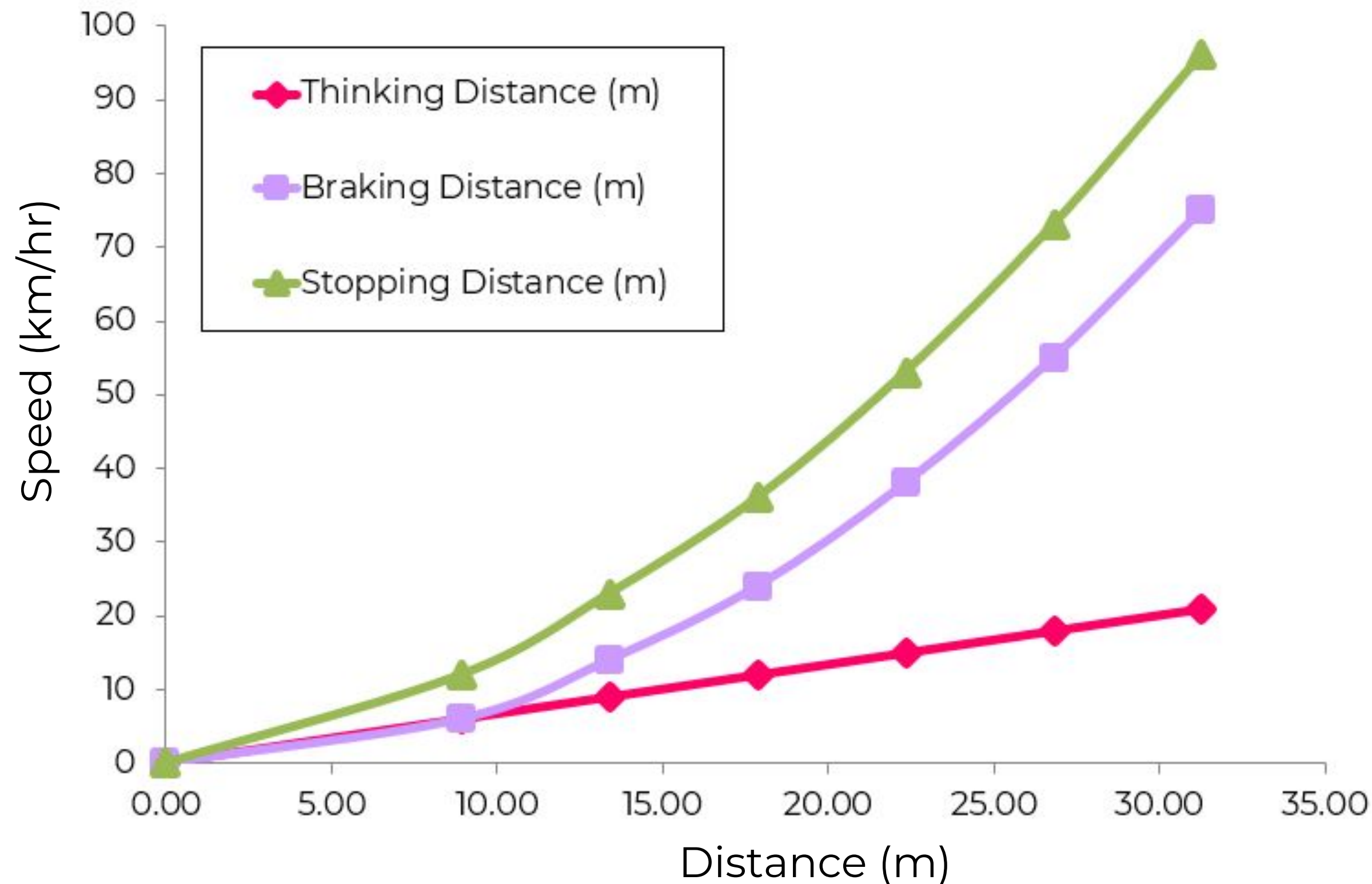
Independent Practice

Thinking distance	Braking distance

Distractions, drugs, condition of brakes, wet/icy roads, condition of tyres, alcohol, eye sight, tiredness, age, road condition



Independent Practice



1. Use the graph to describe the pattern shown in the data. (hint: talk about both thinking and braking distance, then stopping distance)

2. What is the additional stopping distance when increasing speed from 10 to 20 km/hr.

3. Why does it take a larger force to stop a vehicle moving faster?

4. Why are large decelerations dangerous?



Independent Practice

Describe the factors that affect the stopping distance of a vehicle. In your answer explain the difference between thinking distance, braking distance and stopping distance, how they are related and factors which affect their lengths. (6)

