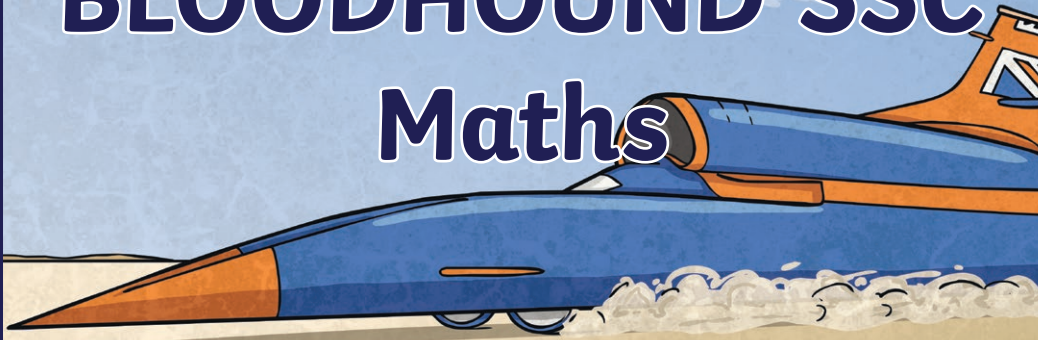


# BLOODHOUND SSC Maths



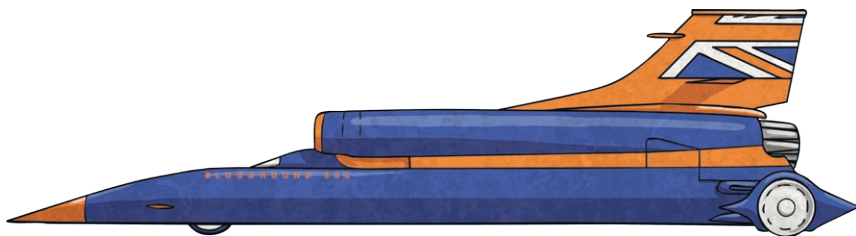
## BLOODHOUND SSC Maths

- 1 There are at least 5000 wires in BLOODHOUND SSC. Each one is a maximum of 10m long. What is the greatest quantity of wire that has been used in the car?



## BLOODHOUND SSC Maths

- 2 The BLOODHOUND SSC has three engines. To fuel each 1000mph run, the car will need 400l of jet fuel and 800l of rocket oxidiser. How many litres is that in total?



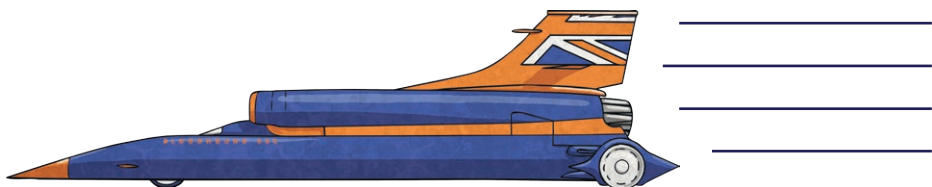
## BLOODHOUND SSC Maths

- 3 Scientists and engineers measure the weight of objects in Newtons. When BLOODHOUND SSC is accelerating, the g-forces increase from 1G to 2G and the weight of objects doubles. Can you work out the weight of these items at 1G and 2G?

Object	Weight at 1G (Newtons)	Weight at 2G (Newtons)
Andy Green	1000	
Parachute		500
Wheel	1050	
Fuel tank	600	

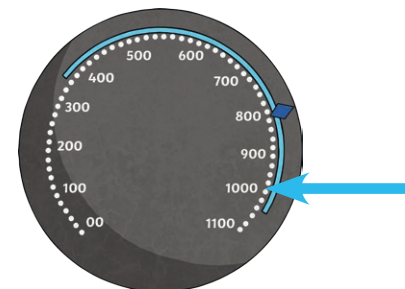
BLOODHOUND SSC Maths

- 4 The driver, Andy Green, needs 5 minutes of air supply each time the car runs, plus 30 minutes reserve. If the car runs 3 times, how much air will he need?



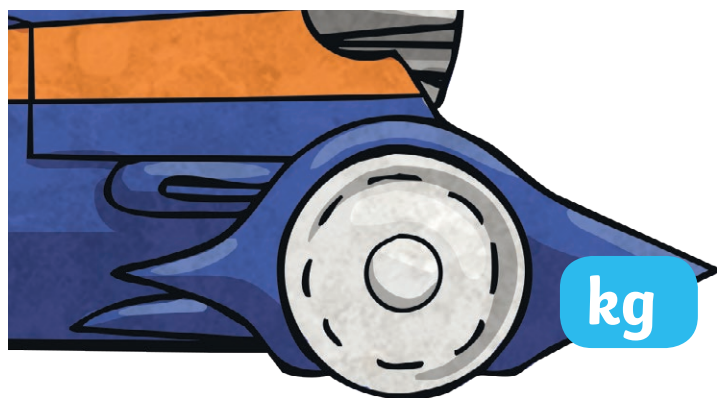
BLOODHOUND SSC Maths

- 5 To reach 1000mph, BLOODHOUND SSC will need 5.4 miles of track. The car will need the same distance to slow back down to 0mph. What is the shortest length of track needed for the test?



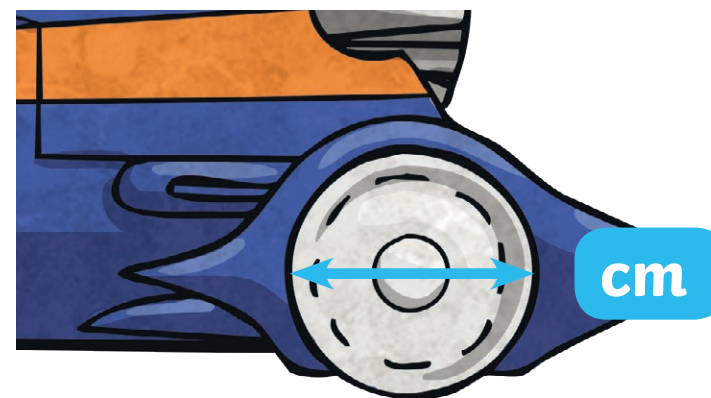
BLOODHOUND SSC Maths

- 6 One wheel has a mass of 95 kg. What is the mass of 4 wheels?



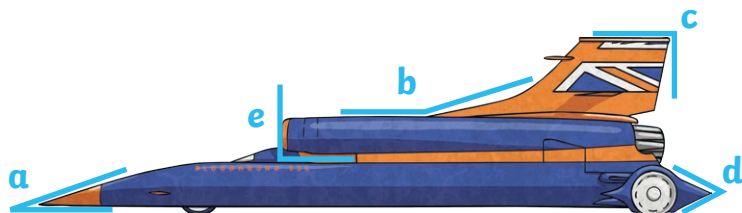
BLOODHOUND SSC Maths

- 7 One wheel has a diameter of 91cm. During testing, the wheels grew 1cm as a result of the load on them and 0.04cm due to heat. What was the diameter of the wheel during testing?



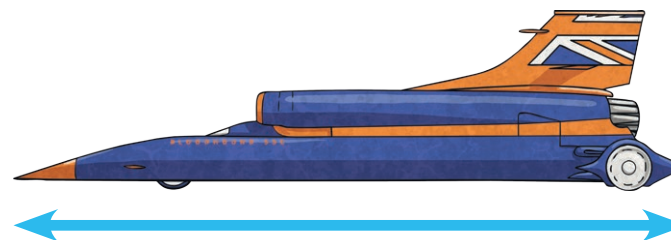
BLOODHOUND SSC Maths

- 8 Look at the labelled angles.  
Which ones are right angles?  
Which are smaller than a right angle?  
Which are larger than a right angle?



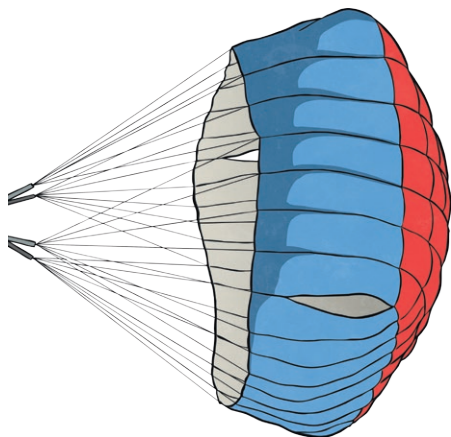
BLOODHOUND SSC Maths

- 9 BLOODHOUND SSC is 13.47m long.  
How many centimetres is that?



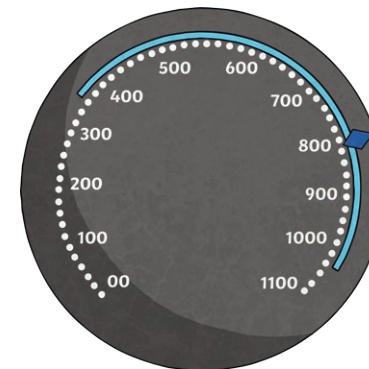
BLOODHOUND SSC Maths

- 10 The parachutes on BLOODHOUND SSC reduce the car's speed from 650mph to 200mph. By how much does the speed reduce?

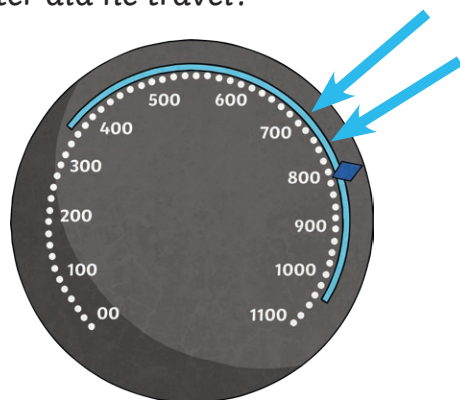


BLOODHOUND SSC Maths

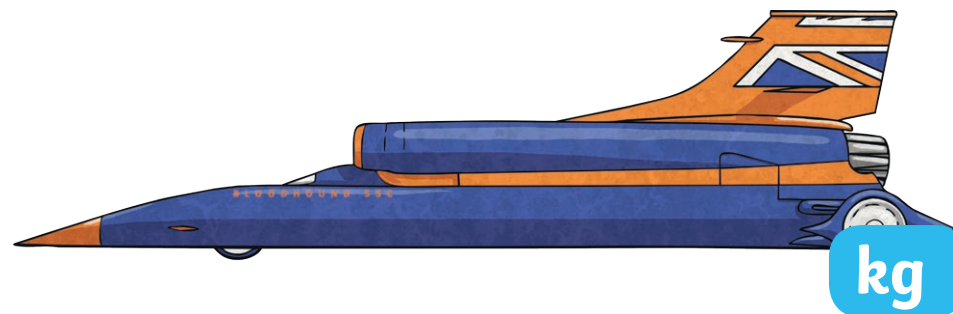
- 11 Look at the speedometer below.  
The blue marker shows when the driver should use the airbrake. What speed will the car be travelling when he does this?



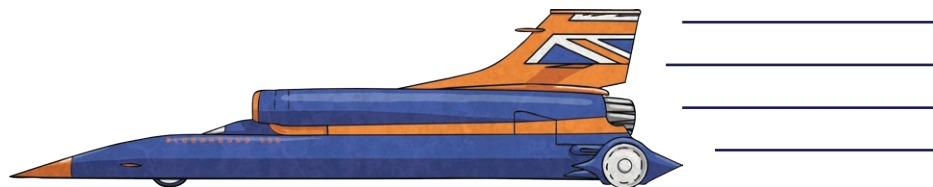
- 12** In September 1997, Andy Green set the world land speed record with a speed of 714mph. In October of the same year, he broke his own record, travelling at 763mph. How much faster did he travel?



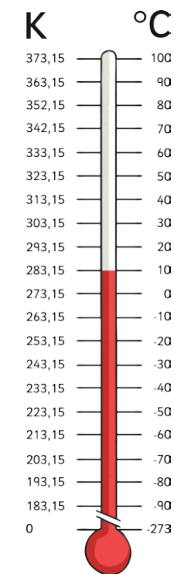
- 13** 1 tonne = 1000kg.  
BLOODHOUND SSC has an approximate mass of 7.5 tonnes. How many kilograms is that?



- 14** BLOODHOUND SSC can travel 1 mile in about 4 seconds. How many miles could it travel in a minute?



- 15** The oven used to set the glue used on the car's body during building increases in temperature by  $5^{\circ}\text{C}$  per minute. If the oven starts at  $22^{\circ}\text{C}$ , what temperature will it reach after 10 minutes?



# BLOODHOUND SSC Maths Answers

1. **50,000m or 50km**

2. **1200l**

3.

Object	Weight at 1G (Newtons)	Weight at 2G (Newtons)
Andy Green	1000	<b>2000</b>
Parachute	<b>250</b>	500
Wheel	1050	<b>2100</b>
Fuel tank	600	<b>1200</b>

4. **45 minutes**

5. **10.8 miles**

6. **380kg**

7. **92.04cm**

8. **a – acute, b – obtuse, c – right-angle,  
d – acute, e – right-angle.**

9. **1347cm**

10. **450mph**

11. **800mph**

12. **49mph**

13. **7500kg**

14. **15 miles**

15. **72 °C**