

Year 6 Maths Trail

Teachers' notes

H3

H4

H5

This trail is designed to support National Curriculum mathematics learning, and covers a range of subject areas, including calculation, measurement, geometry, and statistics.

It is based on the real mathematics and numbers involved in the mechanics and the history of the planes in Hangar 3/4/5.

The trail can be done individually or in groups, and all that is needed to complete it is a print-off of the questions and a pencil, though clipboards may also be useful. The answers for each question are below.

1. Find the Bristol Bulldog. Put these events from its history in the correct place on the timeline.

Built 1930

Sent overseas to protect Ethiopia 1935

Restoration completed 1998.

2. Find the Lockheed Hudson. It worked as a transporter as well as a bomber aircraft. What is its loaded weight? If it weighs 5,275 kg when empty, how much do the crew and cargo weigh?

$$8400 \text{ kg} - 5275 \text{ kg} = 3125 \text{ kg}$$

3. Go to the Avro Lancaster B.1. Find its top speed in mph. How fast would it go if it did $\frac{1}{7}$ of its top speed?

$$\frac{1}{7} \text{ of } 287 \text{ mph} = 41 \text{ mph}$$

4. Find the Hawker Hurricane. What is its wingspan rounded to the nearest whole number?
What is the total wingspan of a full squadron of 16 hurricanes?

$$12 \text{ m} \times 16 = 192 \text{ m}$$

5. Go to the Westland Lysander. It was used to move Allied agents in and out of occupied Europe. For every 3 pilots, there can be between 3 and 9 agents as passengers. 23 Allied agents need to be transported for a mission. What is the minimum number of pilots needed?

8 planes are needed.

6. Go to the Messerschmitt Bf 110G-4. What is the length of the Messerschmitt rounded to the nearest whole number? What would 75% of this length be?

13 m - 75% of 13 = 9.75 m

7. Find the Handley Page Halifax. How many Rolls Royce Merlin XX engines does it have?

4 engines/ 4 x 2.27 L = 9.08L

8. Find the de Havilland Vampire. It was the first ever jet aircraft to fly across the Atlantic Ocean. Have a look at the graph of the journey and answer the questions below.

- a) How far did it travel in total? **2,500 km**
b) After how many hours did it stop travelling? **8 hours**

9. Find the Jet Provost T.5 A. It is making its final descent from a flight in the diagram below.

Can you calculate how far away it was from the RAF airfield when it started its descent? Use the area and height of the triangle to help you.

$150 \text{ km}^2 \times 2 = 300 \div 10 = 30 \text{ km}^2$ away from the airfield.

10. Go to the Lightning F6. This jet can fly about twice the speed of sound! What is its maximum speed rounded to the nearest hundred?

If it flew at this speed, how long would it take the F6 to fly the around 600 km journey from the Museum to RAF Lossiemouth in Scotland?

$600 \div 2400 = 0.25 = \frac{1}{4}$ of an hour or 15 minutes.