

AQA - Forces – GCSE Combined Science Physics

1. June/2020/Paper_2F/No.1(1.2),(1.4)

0 1 . 2

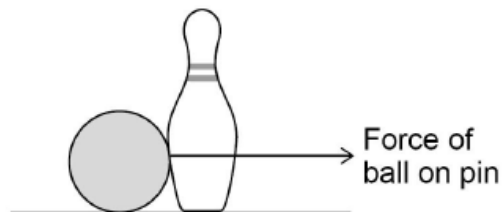
Why does the velocity of the ball decrease as the ball travels along the lane?

[1 mark]Tick (✓) **one** box.

The force of gravity slows the ball down.

There are no forces acting on the ball.

There is a resultant force acting on the ball.

Figure 2 shows the ball hitting one of the pins.**Figure 2**

0 1 . 4

Draw an arrow on **Figure 2** to show the force of the pin on the ball.**[2 marks]**

2. June/2020/Paper_2F/No.4(4.2)

0 4 . 2

Which force acting on the moving bicycle is a non-contact force?

[1 mark]

Tick (✓) **one** box.

Air resistance

Friction

Gravitational force

Normal contact force

3. June/2020/Paper_2H/No.4(4.1)

0 4

Figure 8 shows a girl bowling a ball along a ten-pin bowling lane.

Figure 8



The girl is trying to knock down the ten pins at the end of the bowling lane.

0 4 . 1

Velocity is a vector quantity, speed is a scalar quantity.

Describe what is meant by a vector quantity and a scalar quantity.

[2 marks]

Vector quantity _____

Scalar quantity _____

4. June/2019/Paper_2F/No.1(1.1)

0 1

Magnetic force is a non-contact force.

0 1 . 1

Which **two** of these are also non-contact forces?**[2 marks]**Tick (✓) **two** boxes.

Air resistance

Electrostatic

Friction

Gravitational

Tension

5. June/2019/Paper_2H/No.3(3.1-3.2)

0 3

Some quantities are scalars and some are vectors.

0 3 . 1

Which of the following quantities are scalars?

[2 marks]

Tick (✓) **two** boxes.

Displacement

Distance

Force

Speed

Velocity

0 3 . 2

Give the difference between a vector quantity and a scalar quantity.

[1 mark]

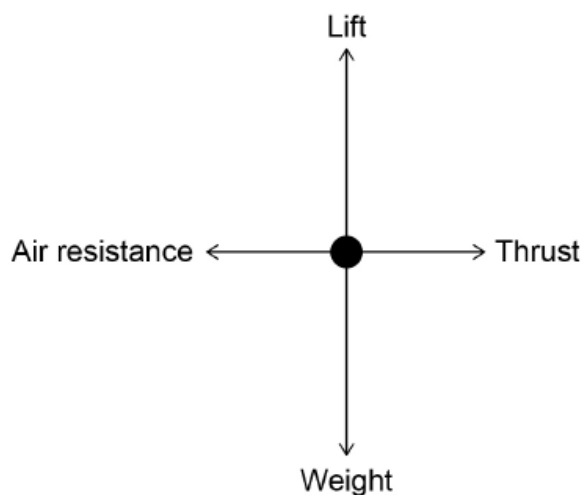
6. June/2019/Paper_2H/No.6

0 6

Figure 9 shows a free body diagram for an aeroplane flying at a constant speed and at a constant height.

The speed of the aeroplane is much greater than the speed at which the aeroplane lands.

Figure 9



0 6 . 1

Explain how the forces need to change so the aeroplane can land.

[4 marks]

0 6 . 2 The aeroplane lands at a speed of 80 m/s

After landing, the aeroplane takes 28 s to decelerate to a speed of 10 m/s

The mean resultant force on the aeroplane as it decelerates is 750 000 N

Calculate the mass of the aeroplane.

[5 marks]

Mass = _____ kg