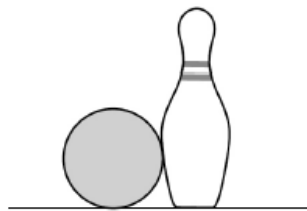**AQA - Momentum – GCSE Combined Science Physics**

1. June/2020/Paper_2H/No.4(4.3-4.5)

Figure 9 shows the bowling ball hitting one of the pins.

Figure 9

| 0 | 4 | . | 3 | Write down the equation that links mass (*m*), momentum (*p*) and velocity (*v*).

[1 mark]

_____

| 0 | 4 | . | 4 | The bowling ball has a velocity of 5.0 m/s when it hits the pin.

The momentum of the bowling ball is 26 kg m/s

Calculate the mass of the bowling ball.

[3 marks]

_____

_____

_____

_____

_____

_____

Mass = _____ kg

0 4 . 5 Explain why the bowling ball slows down when it hits the pin.

You should use ideas about momentum in your answer.

[3 marks]
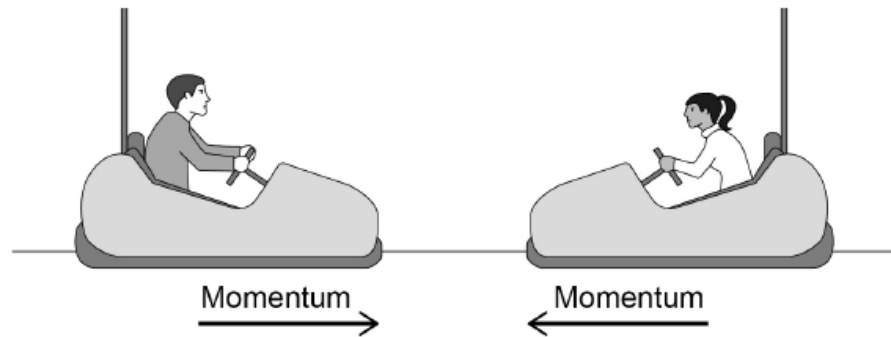
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2. June/2019/Paper_2H/No.3(3.3_3.4)

Bumper cars are a fairground ride and are designed to bump into each other.

Figure 5 shows two bumper cars moving towards each other.

The momentum of each bumper car is shown by an arrow.

Figure 5

Momentum →   ← Momentum

| 0 | 3 |.| 3 | Give **two** factors that affect the momentum of each bumper car.

[2 marks]

1 _____

2 _____

| 0 | 3 |.| 4 | The bumper cars crash into each other and stop.

Explain why both bumper cars stop after the crash.

[4 marks]

_____

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