15 A cyclist is towing a trailer behind her bicycle.
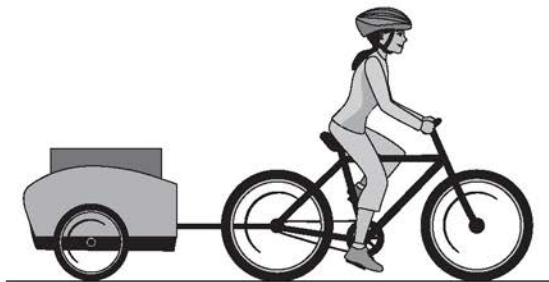
She is riding along a straight, horizontal path at a constant speed.

A tension of T newtons acts on the connecting rod between the bicycle and the trailer.

The cyclist is causing a constant driving force of 40 N to be applied whilst pedalling forwards on her bicycle.

The constant resistance force acting on the trailer is 12 N

15 (a) State the value of T giving a clear reason for your answer.

[2 marks]

15 (b) State one assumption you have made in reaching your answer to part **(a)**.

[1 mark]

15 (c) Find the external resistance force acting on the cyclist and her bicycle.

[2 marks]