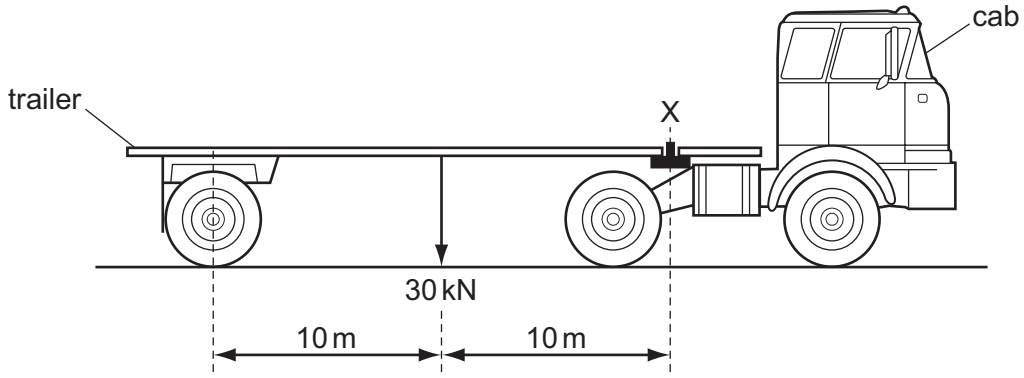
14 A trailer of weight 30 kN is hitched to a cab at X, as shown in the diagram.



What is the upward force exerted by the cab on the trailer at X?

A 3 kN **B** 15 kN **C** 30 kN **D** 60 kN

15 When a horizontal force *F* is applied to a frictionless trolley over a distance *s*, the kinetic energy of the trolley changes from 4 J to 8 J.

If a force of 2*F* is applied to the trolley over a distance of 2*s*, what will the original kinetic energy of 4 J become?

A 16 J **B** 20 J **C** 32 J **D** 64 J

16 The kinetic energy of a vehicle of mass 1000 kg is 4.5×10^5 J. It is braked with a total constant braking force of 6000 N.

What will be its stopping distance?

A 37 m **B** 75 m **C** 150 m **D** 300 m

Space for working