QT Standard Form Word Problems

1. The number of atoms in one kilogram of helium is 1.53×10^{26}. Calculate the number of atoms in 30 kilograms of helium. Give your answer in standard form.
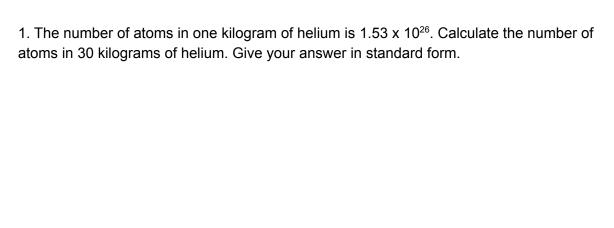
2. In 2015 the population of the United Kingdom was 6.4×10^7

   In 2015 the population of Sweden was 9.7×10^6

(i) Work out the combined population of the United Kingdom and Sweden.
Give your answer in standard form.

(ii) Work out the difference between the population of the United Kingdom and the population of Sweden in 2015. Give your answer in standard form.

3. It takes 8 minutes for light to travel from the Sun to the Earth.
The speed of light is 3×10^8 metres per second.

Work out the distance, **in kilometres**, from the Sun to the Earth. Give your answer in standard form.