Multiplying and Dividing in Standard Form

1. Solve the following. Give your answers in standard form:

   a. $(4 \times 10^3) \times (2 \times 10^5)$

   b. $(3 \times 10^3) \times (2.5 \times 10^5)$

   c. $(3 \times 10^2) \times (5 \times 10^6)$

   d. $(5 \times 10^7) \times (2.2 \times 10^4)$

   e. $(2.1 \times 10^6) \times (3 \times 10^{-4})$

   f. $(7.3 \times 10^{-3}) \times (4.8 \times 10^{12})$

   g. $(4.27 \times 10^8) \times (8.4 \times 10^3)$

   h. $(4.9 \times 10^{-5}) \times (7.21 \times 10^{-24})$

2. Solve the following. Give your answers in standard form:

   a. $(8 \times 10^6) \div (2 \times 10^2)$

   b. $(4.8 \times 10^{15}) \div (4 \times 10^4)$

   c. $(5.6 \times 10^8) \div (1.4 \times 10^5)$

   d. $(8.19 \times 10^{-7}) \div (9.1 \times 10^3)$

   e. $(2.1 \times 10^{14}) \div (3 \times 10^{-10})$

   f. $(9.2 \times 10^{-8}) \div (2.3 \times 10^{-3})$

   g. $(9.9 \times 10^{25}) \div (3.3 \times 10^{-13})$

   h. $(2.82 \times 10^2) \div (7.05 \times 10^9)$

3. The distance from Earth to Neptune is 4.35×10^{12} metres. If a satellite travels through space at 5.8×10^7 metres per hour, how many hours will it take to reach Neptune? Give your answer in standard form.

4. There are 7.4×10^{14} bacteria cells in a petri dish. The average mass of each cell is 6.25×10^{-10}. Giving your answers in standard form what is the total mass of the bacteria:

   a. in grams?

   b. in kilograms?

5. Hanzah is answering the question $(3 \times 10^5) \times (5 \times 10^4)$, giving his answer in standard form.

   He gets the answer 15×10^9.

   What mistake has he made?

   What is the correct answer?