Concept questions

Complete the following reaction equation:

$$^{235}_{92}U + n = ^{90}_{38}Sr + \blacksquare$$

a) $^{146}_{55}Cs + p$

b) $^{145}_{54}Xe$

c) $^{146}_{54}Xe$

d) $^{146}_{55}Cs$

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What is the atom fraction of hydrogen in water (H_2O)? What is the atom fraction of hydrogen in heavy water (D_2O)?

a) 0.50; 0.66
b) 0.50; 0.50
c) 0.66; 0.66
d) 0.66; 0.80

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H_2O
2 ^1H atoms (2/3)
1 O atom (1/3)

D_2O
2 ^2H atoms (2/3)
1 O atom (1/3)

Approximately, what is the mass fraction of hydrogen in water (H_2O)? What is the mass fraction of hydrogen in heavy water (D_2O)?

a) 0.11; 0.44
b) 0.11; 0.20
c) 0.25; 0.50
d) 0.22; 0.88

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d) 0.22; 0.88

H_2O
2 ^1H atoms, m ~1 (2/18)
1 O atom, m ~16 (16/18)

D_2O
2 ^2H atoms, m ~2 (4/20)
1 O atom, m ~16 (16/20)