Multiply Decimals by Decimals

Multiplying decimals is easy! You simply multiply as if there were no decimal points. Then place the decimal point in the answer following this rule:

The answer will have as many decimal places/digits as there are, IN TOTAL, in all of the factors.

Example 1. 0.05×0.7	**Example 2.** $12 \times 2 \times 0.3 \times 0.2$
Multiply in your head: $5 \times 7 = 35$. The factor 0.05 has **two** and 0.7 has **one** decimal digit. The answer has to have **three**, so the answer is 0.035.	Multiply mentally: $12 \times 2 \times 3 \times 2 = 144$. The factors have 0, 0, 1, and 1 decimal digits—a total of 2. The answer has to have 2 decimal digits/places, so the answer is 1.44.

1. Multiply first as if there were no decimal points. Then add the decimal point to the answer.

a. $0.5 \times 0.3 =$ _____	**c.** $0.4 \times 0.08 =$ _____	**e.** $8 \times 0.3 =$ _____
b. $0.9 \times 0.6 =$ _____	**d.** $0.7 \times 0.02 =$ _____	**f.** $0.1 \times 2.7 =$ _____
g. $0.2 \times 0.1 =$ _____	**i.** $0.9 \times 0.01 =$ _____	**k.** $0.7 \times 0.3 =$ _____
h. $0.8 \times 0.1 =$ _____	**j.** $9 \times 0.06 =$ _____	**l.** $7 \times 0.03 =$ _____

The answer to a decimal multiplication may end in one or more *decimal* zeros. That is no problem. You may **simplify the final answer** by dropping the ending decimal zeros.

Example 3. To solve 50×0.006, first multiply in your head $50 \times 6 = 300$. The factors (50 and 0.006) have 0 and 3 decimal places, so the answer will have **3**. Therefore, the answer is 0.300, but it *simplifies* to 0.3.	**Example 4.** To solve 400×0.05, we first multiply $400 \times 5 = 2000$. The factors have 0 and 2 decimal digits, so the answer will have **2**. The answer is 20.00. You can simplify that to 20.

2. Multiply. Simplify your final answer.

a. $0.4 \times 0.5 =$ _0.20_ = _0.2_	**e.** $40 \times 0.05 =$ _____ = _____
b. $20 \times 0.06 =$ _____ = _____	**f.** $0.6 \times 0.2 \times 0.5 =$ _____ = _____
c. $3 \times 0.2 \times 0.5 =$ _____ = _____	**g.** $600 \times 0.004 =$ _____ = _____
d. $300 \times 0.009 =$ _____ = _____	**h.** $0.4 \times 0.5 \times 60 =$ _____ = _____