Multiplication of Decimals

Understanding the Topic

- Multiplication of decimals is done like whole numbers.
- First, ignore the decimal point and multiply the numbers normally.
- Then, count the total number of digits after the decimal in both numbers.
- Place the decimal in the answer so that it has the same number of digits after the decimal as counted.

Steps to Multiply Decimals

- **Step 1:** Remove the decimal and multiply the numbers like whole numbers.
- **Step 2:** Count the digits after the decimal point in both numbers.
- **Step 3:** Place the decimal in the product from the right side.
- **Step 4:** Write the final answer with the correct decimal point.

Examples with Solutions

1. Multiply 2.5 × 4

Ignore decimal: $25 \times 4 = 100$

One digit after decimal in 2.5 \rightarrow place decimal after 1 digit

Answer: 10.0

2. Multiply 1.2 × 3.5

Ignore decimals: $12 \times 35 = 420$

1 digit in 1.2 and 1 in 3.5 \rightarrow total 2 digits after decimal

Place decimal: 4.20

Answer: 4.2

3. Multiply 0.6 × 0.4

Ignore decimals: $6 \times 4 = 24$

1 digit in each number \rightarrow total 2 digits

Place decimal: 0.24

Answer: 0.24

4. Multiply 5.25 × 2

Ignore decimal: $525 \times 2 = 1050$

Two digits after decimal in 5.25 \rightarrow place decimal after 2 digits

Answer: 10.50

5. Multiply 3.6 × 1.5

Ignore decimals: $36 \times 15 = 540$

1 digit in each number \rightarrow total 2 digits

Place decimal: 5.40

Answer: 5.4

Summary Points

- Multiply normally without decimal first.
- Count the total number of decimal places in both numbers.
- Place the decimal in the product accordingly.
- Example: $1.2 \times 0.5 = 0.60$.
- Always check if the final answer needs simplification.