



## Unit 4

Name: \_\_\_\_\_

Lesson 4.3

Grade 6A

Date: \_\_\_\_\_

**Multiplying decimals**

**Study sheet**

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**Objective:** To estimate and multiply decimals by whole numbers.

### Part 1: What is a Decimal?

- A decimal is a number that has a **whole number part** and a **fractional part**, separated by a decimal point.
- **Example:** In 4.25, the 4 is the whole part, and the .25 is the fractional part (it means 25 hundredths).

### Part 2: The Power of Estimating! (Why it's your best friend)

Estimating *before* you calculate helps you know if your final answer makes sense.

**How to Estimate:**

1. **Round the decimal** to the nearest whole number.
2. **Multiply** the whole numbers together.

**Example:**

- **Problem:**  $5.8 \times 3$
- **Step 1: Round:** 5.8 is close to 6.
- **Step 2: Multiply:**  $6 \times 3 = 18$
- **So,  $5.8 \times 3$  should be close to 18.** If you get an answer like 174, you'll know something went wrong!

### Part 3: How to Multiply Decimals by Whole Numbers

Don't let the decimal point scare you! You already know how to do this.

#### The Secret Trick:

1. **Ignore the decimal point.** Multiply the numbers as if they were both whole numbers.
2. **Count the total number of decimal places** in the original numbers (this only comes from the decimal number).
3. **Place the decimal point** in your answer. Your answer should have the same number of decimal places as the original decimal number.

#### Let's Solve $3.25 \times 4$ together:

1. **Ignore the decimal:** Multiply  $325 \times 4 = 1300$ .
2. **Count the decimal places:** 3.25 has **2** decimal places.
3. **Place the decimal:** Give the answer **2** decimal places: 13.00 which is just 13.

**Final Answer:**  $3.25 \times 4 = 13$

### Part 4: Let's Practice Together!

Try these. Remember to estimate first!

1.  $2.3 \times 5$  (Estimate:  $2 \times 5 = 10$ )
2.  $6.72 \times 6$  (Estimate:  $7 \times 6 = 42$ )

**You've got this!** Bring your questions to class, and we'll practice lots more together.

Circle the best estimate for each problem.

1.  $4.7 \times 5$

a) 25

b) 20

c) 30

2.  $9.1 \times 3$

a) 27

b) 30

c) 36

3.  $12.83 \times 4$

a) 52

b) 40

c) 48

Solve these problems. Show your work!

4.  $2.5 \times 4$

5.  $6.3 \times 7$

6.  $0.8 \times 5$

Read carefully, estimate first, then solve.

7. One pencil costs \$1.25. How much would 6 pencils cost?

◦ Estimate: \_\_\_\_\_  $\times$  \_\_\_\_\_ = \_\_\_\_\_

◦ Calculate: \_\_\_\_\_

8. A robot can walk 3.75 meters in one minute. How far can it walk in 8 minutes?

◦ Estimate: \_\_\_\_\_  $\times$  \_\_\_\_\_ = \_\_\_\_\_

◦ Calculate: \_\_\_\_\_

The Pattern Spotter:

**9. Complete the pattern:**

$$7 \times 3 = 21$$

$$0.7 \times 3 = 2.1$$

$$0.07 \times 3 = \underline{\hspace{2cm}}$$