LESSON MAKER PRO

Decimal Product Power

Estimate, multiply, and place decimals carefully.

GRADE 5 · 5.CE.3.b.ii

5.CE.3.b.ii "Estimate and determine the product of two numbers using strategies and algorithms, including the standard algorithm, when given: a three-digit factor and a one-digit factor (e.g., 0.156 × 4, 3.28 × 7, 8.09 × 0.2);* and"

NAME _____ DATE _____

MULTIPLY AND CHECK

First, round the three-digit factor to the nearest tenth to make an estimate. Then use the standard algorithm by multiplying the digits and placing the decimal so the product has the total number of decimal places from both factors.

WORKED EXAMPLE

Estimate and find 5.63 × 9.

1. Estimate: 5.6 × 9 = 50.4.
2. Ignore the decimal: 563 × 9 = 5,067.
3. Put 2 decimal places in the product: 50.67.

Answer: Estimate: 50.4; Product: 50.67

PRACTICE 6 problems

1 Round the three-digit factor to the nearest tenth to estimate. Then use the standard algorithm to find 3.46 × 2.

ANSWER _____

2 Round the three-digit factor to the nearest tenth to estimate. Then use the standard algorithm to find 0.582 × 6.

ANSWER _____

3 Round the three-digit factor to the nearest tenth to estimate. Then use the standard algorithm to find 7.09 × 0.4.

ANSWER _____

4 Round the three-digit factor to the nearest tenth to estimate. Then use the standard algorithm to find 12.5 × 3.

ANSWER _____

5 Round the three-digit factor to the nearest tenth to estimate. Then use the standard algorithm to find 0.764 × 7.

ANSWER _____

6 Round the three-digit factor to the nearest tenth to estimate. Then use the standard algorithm to find 8.31 × 0.6.

ANSWER _____

APPLY IT Show your work

1 A robotics team uses 2.68 meters of wire for each of 4 small robots. Estimate the total wire needed by rounding 2.68 to the nearest tenth. Then find the exact total.

WORK SPACE

ANSWER _____

2 A school smoothie booth uses 0.385 liter of fruit juice for each smoothie. It makes 6 smoothies. Estimate the total juice by rounding 0.385 to the nearest tenth. Then find the exact total.

WORK SPACE

ANSWER _____

CHALLENGE One step up

A tablet shows 43.54 for 6.22 × 0.7. Is the display reasonable? Find the correct product and explain your reasoning in one sentence.

WORK SPACE AND ANSWER

ANSWER KEY

Decimal Product Power

GRADE 5 · 5.CE.3.b.ii

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Round the three-digit factor to the nearest tenth to estimate. Then use the standard algorithm to find 3.46 × 2.	**Estimate: 7; Product: 6.92**
2	Round the three-digit factor to the nearest tenth to estimate. Then use the standard algorithm to find 0.582 × 6.	**Estimate: 3.6; Product: 3.492**
3	Round the three-digit factor to the nearest tenth to estimate. Then use the standard algorithm to find 7.09 × 0.4.	**Estimate: 2.84; Product: 2.836**
4	Round the three-digit factor to the nearest tenth to estimate. Then use the standard algorithm to find 12.5 × 3.	**Estimate: 37.5; Product: 37.5**
5	Round the three-digit factor to the nearest tenth to estimate. Then use the standard algorithm to find 0.764 × 7.	**Estimate: 5.6; Product: 5.348**
6	Round the three-digit factor to the nearest tenth to estimate. Then use the standard algorithm to find 8.31 × 0.6.	**Estimate: 4.98; Product: 4.986**

PART 2 · APPLY IT

1. **Estimate: 10.8 meters; Exact total: 10.72 meters** Round 2.68 to 2.7, then multiply 2.7 × 4 to estimate 10.8. Multiply 2.68 × 4 to get 10.72.
2. **Estimate: 2.4 liters; Exact total: 2.31 liters** Round 0.385 to 0.4, then multiply 0.4 × 6 to estimate 2.4. Multiply 0.385 × 6 to get 2.310, or 2.31.

CHALLENGE

No. 6.22 rounds to 6.2, and 6.2 × 0.7 = 4.34, so 4.354 is the reasonable exact product.

Accept 2.310 or 2.31 as equivalent exact products. For the challenge, accept explanations that use an estimate or note that multiplying by 0.7 must make 6.22 smaller.