LESSON MAKER PRO

Decimal Power Moves

Shift the decimal with powers of 10.

GRADE 5 · 5.NR.1.2

5.NR.1.2 "Explain patterns in the placement of digits when multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10, up to 10^3."

NAME _____ DATE _____

MOVE THE DECIMAL

A power of 10 tells how many places to move the decimal point. Multiplying by 10^1, 10^2, or 10^3 moves the decimal point 1, 2, or 3 places right. Dividing by these powers moves the decimal point left, using zeros when needed.

WORKED EXAMPLE

Find 5.27×10^2.

1. $10^2 = 100$.
2. Multiply 5.27 by 100.
3. Move the decimal point 2 places right: $5.27 \rightarrow 527$.

Answer: 527

PRACTICE 6 problems

1 Find 7.3×10^1.

ANSWER _____

2 Find 0.86×10^3.

ANSWER _____

3 Find $915 \div 10^1$.

ANSWER _____

4 Find $42.7 \div 10^2$.

ANSWER _____

5 Find 0.093×10^2.

ANSWER _____

6 Find $6.04 \div 10^3$.

ANSWER _____

APPLY IT Show your work

1 A robotics team measures a path that is 0.315 meter long. How many millimeters long is the path? Use 1 meter = 10^3 millimeters.

WORK SPACE

ANSWER _____

2 At an esports club, 8,700 points are shared equally among 10^2 players in a tournament. How many points does each player get?

WORK SPACE

ANSWER _____

CHALLENGE One step up

A video editor saves a clip that is 0.509 gigabytes. A backup is 10^3 times as large, then a compressed copy is made by dividing that backup by 10^2. What is the size of the compressed copy? Explain how the decimal point moves.

WORK SPACE AND ANSWER

ANSWER KEY

Decimal Power Moves

GRADE 5 · 5.NR.1.2

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Find 7.3×10^1.	**73**
2	Find 0.86×10^3.	**860**
3	Find $915 \div 10^1$.	**91.5**
4	Find $42.7 \div 10^2$.	**0.427**
5	Find 0.093×10^2.	**9.3**
6	Find $6.04 \div 10^3$.	**0.00604**

PART 2 · APPLY IT

1. **315 millimeters** Multiply 0.315 by 10^3. Move the decimal point 3 places right to get 315.
2. **87 points** Divide 8,700 by 10^2, or 100. Move the decimal point 2 places left to get 87.

CHALLENGE

5.09 gigabytes.

Accept equivalent decimal forms with extra trailing zeros. For the challenge, accept explanations that state the overall decimal-point move is 1 place right.