

Powers of 10

Numbers & Patterns · Grade 5

◆ Medium · 10 Questions

Solve each problem. Show your work in the space provided. Write your answer on the line.

1. What is 10^4 ?

Answer: _____

2. Write 1,000,000 as a power of 10.

Answer: _____

3. What is 10^5 ?

Answer: _____

4. When multiplying any number by 100 (a power of 10), how many places does the decimal point shift?

Answer: _____

5. Use the powers of 10 pattern: $4.5 \times 1,000 = \underline{\hspace{2cm}}$

Answer: _____

6. Write 10,000,000 as a power of 10.

Answer: _____

7. What is 2.3×10^2 ?

Answer: _____

8. Dividing by 10^3 shifts the decimal how many places to the left?

Answer: _____

9. Write 100,000 as a power of 10.

Answer: _____

10. What is the value of 6×10^4 ?

Answer: _____

Answer Key

Powers of 10 — Medium

1. **10,000**

$10^4 = 10,000$. Each power of 10 adds a zero.

2. **10^6**

1,000,000 has 6 zeros. So it equals 10^6 .

3. **100,000**

$10^5 = 10 \times 10 \times 10 \times 10 \times 10 = 100,000$.

4. **2 places to the right**

$100 = 10^2$ is a power of 10 with 2 zeros, so the decimal shifts 2 places right.

5. **4,500**

1,000 is a power of 10 (10^3). Multiplying by it shifts the decimal 3 places right: $4.5 \rightarrow 4,500$.

6. **10^7**

10,000,000 has 7 zeros, so it equals 10^7 .

7. **230**

Multiply by 100: $2.3 \rightarrow 230$ (shift decimal 2 places right).

8. **3**

Dividing by $10^3 = 1,000$ shifts the decimal 3 places left.

9. **10^5**

100,000 has 5 zeros, so it equals 10^5 .

10. **60,000**

$10^4 = 10,000$. So $6 \times 10,000 = 60,000$.