Place Value & Powers of 10

Name: _____ Date: _____ Grade: Grade 5

Part A: Multiple Choice

Circle the best answer for each question.

1. A number has a 6 in the ten-thousands place. Its value from that digit alone is 6×10 to what power?

- A) 10^3
- B) 10^4
- C) 10^5
- D) 10^6

2. Which shows 50,300 written as two terms with powers of 10?

- A) $(5 \times 10^4) + (3 \times 10^3)$
- B) $(5 \times 10^4) + (3 \times 10^2)$
- C) $(5 \times 10^3) + (3 \times 10^2)$
- D) $(5 \times 10^5) + (3 \times 10^2)$

3. 0.25×10^5 equals which value?

- A) 250
- B) 2,500
- C) 25,000
- D) 250,000

4. Sam says 8×10^4 is the same as 80×10^3. Is he correct, and why?

- A) No — $80 \times 10^3 = 800{,}000$
- B) Yes — both equal 80,000
- C) No — $8 \times 10^4 = 8{,}000$
- D) Yes — both equal 800,000

Part B: Fill in the Blank

Write the correct answer on each line.

1. Write 2,400,000 as 24 times a power of 10: 24×10 to the power of _____.

2. The digit 8 in 830,000 has a value that is _____ times the value of the 8 in 8,300.

3. $(9 \times 10^5) + (4 \times 10^2) + (6 \times 10^0) =$ _____.

4. $1.35 \times 10^4 =$ _____.

5. $6{,}090{,}000 \div 10^3 =$ _____.

Part A: Multiple Choice

Circle the best answer for each question.

1. A number has a 6 in the ten-thousands place. Its value from that digit alone is 6×10 to what power?

- ○ A) 10^3
- ● **B) 10^4**
- ○ C) 10^5
- ○ D) 10^6

2. Which shows 50,300 written as two terms with powers of 10?

- ○ A) $(5 \times 10^4) + (3 \times 10^3)$
- ● **B) $(5 \times 10^4) + (3 \times 10^2)$**
- ○ C) $(5 \times 10^3) + (3 \times 10^2)$
- ○ D) $(5 \times 10^5) + (3 \times 10^2)$

3. 0.25×10^5 equals which value?

- ○ A) 250
- ○ B) 2,500
- ● **C) 25,000**
- ○ D) 250,000

4. Sam says 8×10^4 is the same as 80×10^3. Is he correct, and why?

- ○ A) No — $80 \times 10^3 = 800{,}000$
- ● **B) Yes — both equal 80,000**
- ○ C) No — $8 \times 10^4 = 8{,}000$
- ○ D) Yes — both equal 800,000

Part B: Fill in the Blank

Write the correct answer on each line.

1. Write 2,400,000 as 24 times a power of 10: 24×10 to the power of **5** .

2. The digit 8 in 830,000 has a value that is **100** times the value of the 8 in 8,300.

3. $(9 \times 10^5) + (4 \times 10^2) + (6 \times 10^0) =$ **900,406** .

4. $1.35 \times 10^4 =$ **13,500** .

5. $6{,}090{,}000 \div 10^3 =$ **6,090** .