

Grade 5 - Place Value and Powers of Ten - Test Answer Key

Common Core 5.NBT.A.1, 5.NBT.A.2 · maths-pdf.fr/en/

Use this answer key to grade the powers of 10 test. Every solution names the number of places the decimal point moves. Use the scoring guide for partial credit. The total is 20 points, and 16 or more points shows secure understanding of place value patterns.

Grade 5 · Common Core State Standards: **5.NBT.A.1, 5.NBT.A.2**

Question 1 - Digits in 6,660 [2 pts]

(a) $6,000 \div 600 = 10$. **10 times**

(b) $60 \div 600 = \frac{1}{10} \cdot \frac{1}{10}$

Scoring: 1 point for each correct answer.

Question 2 - Multiply and divide by 10 [2 pts]

(a) One place right: **38**

(b) One place left: **52**

Scoring: 1 point for each correct answer.

Question 3 - Powers of 10 operations [3 pts]

(a) Two places right: **64**

(b) Three places right: 7.1 becomes 7100, **7,100**

(c) Two places left: **43**

Scoring: 1 point for each correct answer.

Question 4 - Exponents [2 pts]

(a) 10,000 has 4 zeros: 10^4

(b) $10 \times 10 \times 10$: **1,000**

Scoring: 1 point for each correct answer.

Question 5 - Missing exponents [2 pts]

(a) 2.9 to 2,900 is 3 places right: **3**

(b) 8 to 0.08 is 2 places left: **2**

Scoring: 1 point for each correct exponent.

Question 6 - Mei's mistake [2 pts]

Mei added two zeros at the end, which does not change the value. Multiplying by 100 moves the decimal point 2 places right.

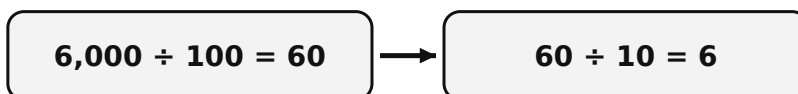
$0.35 \times 100 = 35$. Correct product: **35**

Scoring: 1 point for explaining the mistake (the point must move right), 1 point for 35.

Question 7 - Peach packs [3 pts]

(a) $6,000 \div 10^2 = 6,000 \div 100 = 60$. **60 packs**

(b) $60 \div 10 = 6$. **6 crates**



Two steps.

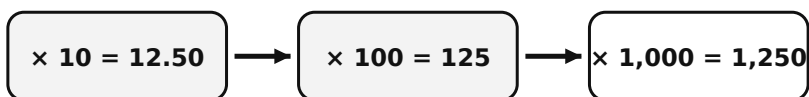
Scoring: (a) 1 point. (b) 2 points: 1 for dividing 60 by 10, 1 for the answer 6.

Question 8 - Cupcake sale [3 pts]

(a) $1.25 \times 10 = 12.5$: \$12.50

(b) $1.25 \times 100 = 125$: \$125

(c) $1.25 \times 1,000 = 1,250$: \$1,250



Answers.

Scoring: 1 point for each correct amount. Do not penalize a missing dollar sign twice.

Question 9 - Digits in 0.88 [1 pt]

The 8 in the tenths place is 0.8. The 8 in the hundredths place is 0.08.

$$0.08 \div 0.8 = \frac{1}{10}.$$

Answer: $\frac{1}{10}$

Scoring: 1 point for 1/10 (or one tenth).

Total
20 points