ALBERT

Name _____ Date _____

Exponents Worksheet

Grade 6 · Common Core 6.EE.A.1

> Write and evaluate numerical expressions involving whole-number exponents.

Practice

Builds the skill step by step.

1. Evaluate: 3^4

2. Evaluate: 5^2

3. Write $7 \times 7 \times 7$ using an exponent.

4. What does 2^5 mean?

   A. $2 \times 2 \times 2 \times 2 \times 2$

   B. 2×5

   C. 5×5

   D. $2 + 2 + 2 + 2 + 2$

5. Evaluate: 10^3

6. Evaluate: 1^8

7. Evaluate: 4^3

8. Which is equal to 9?

   A. 2^3

   B. 9^2

   C. 3^2

   D. 3×2

9. Write $6 \times 6 \times 6 \times 6 \times 6$ using an exponent.

10. Evaluate: 2^6

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On Level

Grade-level practice.

1. Evaluate: $(\frac{1}{2})^3$

2. Evaluate: 0.3^2

3. Evaluate: $2^3 + 4 \times 3$

4. What is the value of $5 + 3^2 \times 2$?

   A. 128

   B. 34

   C. 23

   D. 22

5. Evaluate: $(6 - 2)^3$

6. Evaluate: $10^2 - 6^2$

7. Evaluate: $3^3 \div 9 + 1$

8. Evaluate: $(\frac{2}{3})^2$

9. Which expression has the greatest value?

   A. 3^4

   B. 4^3

   C. 2^6

   D. 8^2

10. Evaluate: 1.5^2

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Challenge

Multi-step and word problems that stretch it.

1. Evaluate: $2 \times (3 + 1)^2 - 5^2$

2. A square garden has sides of 12 feet. Write its area using an exponent and find the value.

3. A cube has edges of 5 centimeters. Write its volume using an exponent and find the value.

4. Liam says $3^4 = 12$. What mistake did he make?

   A. He added 3 four times.

   B. He multiplied 3×4 instead of using 3 as a factor 4 times.

   C. He forgot to multiply by 3 once more.

   D. He is correct.

5. What exponent makes the equation true? $2^{?} = 128$

6. Evaluate: $(0.2)^3 \times 1{,}000$

7. Evaluate: $4^2 \div (2^3 - 4) + 3^2$

8. A bacteria colony doubles every hour. It starts with 1 cell. Write an expression with an exponent for the number of cells after 10 hours, and find the value.

9. Which is greater, 2^5 or 5^2? By how much?

10. Evaluate: $(\frac{1}{2})^2 + (\frac{1}{4})^2$