

GRADE 9 MATH TEST #4

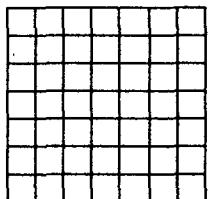
MAIN TARGET : OPERATIONS WITH POWERS (B-1/B-2)
 REVIEW TARGET : OPERATIONS ON RATIONAL NUMBER
 (A-2)

Test #3 Review 1

Multiple Choice

Identify the choice that best completes the statement or answers the question.

1. Write the number of unit squares in this large square as a power.



- a. 7×7 b. 7^2 c. 7×4 d. 7^7
2. Write the base of $-(-5)^3$.
 a. -5 b. 5 c. -5×3 d. 3
3. Evaluate: -4^4
 a. -256 b. -16 c. 16 d. 256
4. Evaluate: 10^7
 a. 100 000 000 b. 10 000 000 c. 1 000 000 d. 70
5. Evaluate: $-(10^0)^9$
 a. -9 b. 1 c. -1 d. 9
6. Write the quotient of $(-8)^{12} \div (-8)^4$ as a single power.
 a. 3 b. $(-8)^8$ c. $(-8)^3$ d. $(-8)^{16}$
7. Write $\left(\frac{11}{9}\right)^5$ as a quotient of powers.
 a. 2^5 b. $11^5 - 9^5$ c. $\frac{11^5}{9^5}$ d. $\frac{11^5}{9^1}$
8. Which expressions have negative values?
 i) $\left[-(-4)^3\right]^3$
 ii) $\left(-4^3\right)^3$
 iii) $\left[(-4)^3\right]^3$
 iv) $-\left[(-4)^3\right]^3$
 a. ii and iii b. i and iv c. i and ii d. iii and iv

- 9. Yesterday, the temperature of a freezer was -4.4°C . When the technician checked the freezer today, its temperature had decreased by 9.8°C . Determine the temperature of the freezer today.
 a. -5.4°C b. 5.4°C c. 14.2°C d. -14.2°C
- 10. The temperature at the top of a mountain is 10.5°C less than the temperature at the base of the mountain. If the temperature at the base is -4.4°C , what is the temperature at the top?
 a. 6.1°C b. -14.9°C c. -6.1°C d. 14.9°C
- 11. Determine this quotient.
 $\frac{3}{14} \div \left(-\frac{15}{4}\right)$
 a. $-\frac{2}{35}$ b. $-\frac{5}{56}$ c. $-\frac{45}{56}$ d. $-\frac{35}{2}$
- 12. Determine this quotient.
 $1\frac{1}{2} \div \left(-2\frac{3}{5}\right)$
 a. $-1\frac{11}{15}$ b. $-\frac{15}{26}$ c. $-\frac{10}{39}$ d. $-3\frac{9}{10}$

Short Answer

13. Which answers are positive?
 i) $(5)^3$
 ii) $(-7)^6$
 iii) $(-3)^7$
 iv) $-(6)^3$
14. Write 27 and 243 as a power with base 3.
15. Complete this table.

Power	Base	Exponent	Repeated Multiplication
3^4			
	(-4)	3	
			$-(6 \times 6 \times 6 \times 6 \times 6)$

16. Write the product of ten thousand times one thousand as a power of 10.

25. Write the expression $\frac{8^3}{4^4}$ so that the powers have the same base.

Simplify, then evaluate.

26. Simplify, then evaluate. Show your work.

$$\frac{7^2 \times 2^3 \times 7^1 \times 2^2 \times 7^3 \times 2^1 \times 7^0}{7^2 \times 2^0 \times 7^2 \times 2^2 \times 2^1}$$

27. Identify, then correct, any errors in the work shown.

$$\begin{aligned} (3^2 \times 3^3)^2 &= (3^{2+3})^2 \\ &= (3^6)^2 \\ &= 3^{6+2} \\ &= 3^8 \\ &= 6561 \end{aligned}$$

28. Simplify, then evaluate. Show your work.

$$\frac{16^5 \times 16^4}{8^3 \times 8^6}$$