

Name: _____

Selected Response [10 @ 1 mark each]

Put the letter of the best response in the space provided.

1.

What is equivalent to -5^3 ?

A) $-(5 \times 5 \times 5)$ B) $(-5)(3)$ C) $5 + 5 + 5$ D) $-5 \times -5 \times -5$
2.

Which expression is positive?

A) -6^2 B) $-(-6)^2$ C) -6^3 D) $-(-6)^3$
3.

What is the value of $-2^0 + 5$?

A) 3 B) 4 C) 5 D) 6
4.

What is $(5 \times 10^4) + (8 \times 10) + (9 \times 10^2) + (6 \times 10^0)$ written in standard form?

A) 5986 B) 50896 C) 50986 D) 58906
5.

What operation must be performed first in this expression? $(-5)[(-4) \div (-2) + 1]$

A) $(-4) \div (-2)$ B) $[(-4) \div (-2) + 1]$ C) $(-2) + 1$ D) $(-5)(-4)$
6.

Which statement is correct?

A) $(-2) \times (-3) - (-3)^2 - (3 \times 2)^0 = -4$

B) $(-5 \times 3) + 4^2 - (-2)^0 = 1$

C) $(-2)^0 - (-2) - (-2)^2 = 7$

D) $(-3)^2 + (-3) - (-2)^2 + (-2)^0 = -15$
7.

What is $6^6 \div 6^3$ written as a single power?

A) 1^2 B) 1^3 C) 6^2 D) 6^3
8.

What is $\frac{(-8)^7 \times (-8)^2}{(-8)^5}$ written as a single power?

A) $(-8)^0$ B) $(-8)^4$ C) $(-8)^{10}$ D) $(-8)^{14}$
9.

What is $9^3 \times (9^2)^4$ written as a single power?

A) 9^5 B) 9^9 C) 9^{11} D) 9^{24}
10.

Which statement is true?

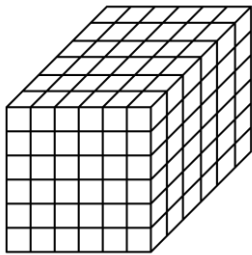
A) $7^5 - 7^2 = 7^3$ B) $7^4 + 7^5 = 7^9$ C) $7^2 \times 7^4 = 7^6$ D) $7^3 \div 7 = 7^3$

1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	

Constructed Response

Show ALL working for full marks!!!

11. Write the number of unit cubes contained in the large cube as a **power**. [2 marks]



12. Explain why 2^3 **does not** equal 3^2 . Use a model or repeated multiplication to support your answer. [3 marks]

13. Do these expressions have the same value? Demonstrate why or why not.

$(-3)^4$ and -3^4 [3 marks]

14. Write each number as a power with **base 3**. [2 marks]

A) $81 = \underline{\hspace{2cm}}$ B) $729 = \underline{\hspace{2cm}}$

15. Write 502 043 in expanded form using powers of 10. [2 marks]

16. The following solution **is incorrect**. Circle and explain the mistake. Then correctly evaluate the expression. [4 marks]

$(3 + 5)^2 \times 3 + 4$
 $= 8^2 \times 7$
 $= 64 \times 7$
 $= 448$

17. Simplify as a **single power** using the Laws of Exponents. Show steps! [8 marks]

A) $\left(\frac{2^2}{5^0}\right)^4$ B) $(4^2 \times 4^5)^3 \div (4^4)^5$ C) $\frac{(2^4)^3 \times 2^2}{(2^4 \times 2)^2}$

18. Simplify using the Laws of Exponents, then evaluate. Show Steps. [6 marks]

A) $4^4 \times 4^5 \div 4^8 \div [(4)(4^0)]$

B) $(7^2 \div 7) - (2^3 \times 2^2)$

19. Consider this rectangle. Determine the perimeter of the rectangle, and then write the perimeter using expanded form with powers of ten. [4 marks]

$30 + 6(5^2)$



$17 - [-2^3] + 1^0$

20. The following solution is incorrect. Circle and explain the mistake. Then correctly evaluate the expression. [6 marks]

$$\begin{aligned} & \frac{5^2+3\times4^2-3^2}{3^2-(5\times4^0)} \\ = & \frac{25+3\times16-9}{9-1} \\ = & \frac{25+48-9}{8} \\ = & \frac{64}{8} \\ = & 8 \end{aligned}$$