

Name: _____ Class: _____

POWERS AND EXPONENTS REVIEW PACKAGE

important things to remember:

Simplify and evaluate each expression. Apply all exponent laws. Show all your work.

	Expression	Simplify	Evaluate
1.	$3^2 \times 3^5$		
2.	$(-8)^2 \times (-8)^6$		
3.	$5^6 \div 5^3$		
4.	$(8^2)^2$		
5.	$\frac{(-9)^7}{(-9)^3}$		
6.	$(7^5)^2$		
7.	$((-5)^2)^3$		
8.	$(4 \times 2)^4$		
9.	$-(3 \times 6)^3$		

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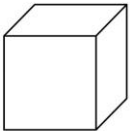
10.	$\{(-5) \times 4\}^3$		
11.	$\left(\frac{9}{(-3)}\right)^3$		
12.	$-\left(\frac{18}{6}\right)^2$		
13.	-5^0		
14.	$(6^5)^0$		
15.	$-(-4)^0$		

	Expression	Simplify and Evaluate
16.	$(-4)^6 \times (-4)^2$	
17.	$2^5 \times 2^3 \div 2$	
18.	$(-6)^6 \div (-6)^2 \times (-6)^3$	

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19.	$\frac{7^6 \times 7^2}{7^2 \times 7^2}$	
20.	$(3^2 \times 3^3)^2 \div (3^4 \div 3)^2$	
21.	$(4^2)^6 - (4 \times 4^3)^2$	
22.	$\left(\frac{9}{3}\right)^5 - \left(\frac{10}{5}\right)^2$	

23. What is the **volume** of a cube with an edge length of 8 cm?



24. Draw a picture that represents:

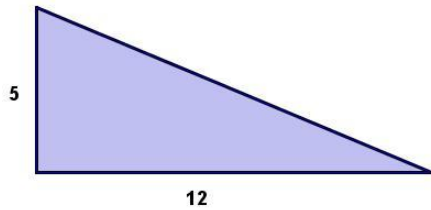
a) 7^2	b) 4^3
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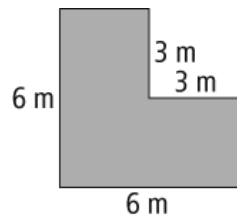
25. Arrange the powers in order from **smallest to largest** value.

$$(-4)^2, (2)^3, -(4)^3, (-1)^5$$

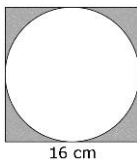
26. Find the length of the hypotenuse in the diagram.



27. What is the total area of this flower garden?



28. The diagram shows a circle inscribed in a square with a side length of 16 cm. What is the area of the shaded region?



13. The number of insects in a colony doubles every month. There are currently 1000 insects in the colony.
- a) How many insects will there be after one year?
 - b) How many insects were there two months ago?