

Class/Homework

# SHOW WORK

Mid Unit Review

Page 69

Questions

1,2ade, 4,5,6,8,9,10

2.1

1. Write each power in standard form.

a)  $14^2$       b)  $5^1$       c)  $-8^3$

d)  $-(-4)^4$     e)  $(-6)^3$     f)  $(-2)^8$

2. Copy and complete this table.

	Power	Base	Exponent	Repeated Multiplication	Standard Form
a)	$4^3$				
b)	$2^5$				
c)	$8^6$				
d)		7	2		
e)				$3 \times 3 \times 3 \times 3$	

3. a) Evaluate the first 8 powers of 7.

Copy and complete this table.

Power of 7	Standard Form
$7^1$	
$7^2$	
$7^3$	
$7^4$	
$7^5$	
$7^6$	
$7^7$	
$7^8$	

- b) What pattern do you see in the ones digits of the numbers in the second column?
- c) Verify that the pattern continues by extending the table for as many powers of 7 as your calculator displays.
- d) Use the pattern. Predict the ones digit of each power of 7. Explain your strategy.
- i)  $7^{12}$       ii)  $7^{14}$   
 iii)  $7^{17}$       iv)  $7^{22}$

4. Write in standard form.

a)  $10^6$       b)  $10^0$       c)  $10^8$       d)  $10^4$

c) 100

d) 100 000

5. Write as a power of 10.

a) one billion      b) one

6. Evaluate.

a)  $(-5)^0$     b)  $25^0$       c)  $-6^0$       d)  $9^0$

7. The area of land is measured in hectares (ha). One hectare is the area of a square with side length 100 m. Write the number of square metres in 1 ha as a power.

8. Evaluate. State which operation you do first.

a)  $(-21 - 6)^2 + 14$

b)  $6 \div (-2) + (2 \times 3)^2$

c)  $[5 - (-4)]^3 - (21 \div 7)^4$

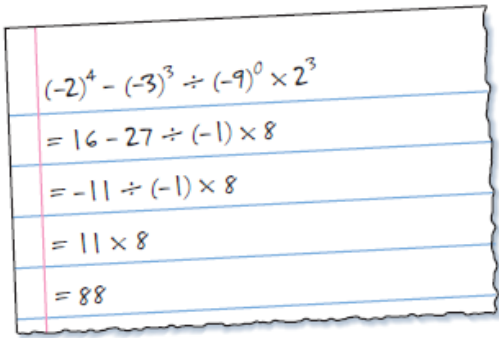
d)  $[(6 - 21)^3 \times (2 + 2)^6]^0$

e)  $(3 - 5)^5 \div (-4)$

f)  $-30 - (7 - 4)^3$

9. Both Sophia and Victor evaluated this expression:  $-2^4 \times 5 + 16 \div (-2)^3$   
Sophia's answer was  $-82$  and Victor's answer was  $78$ . Who is correct? Find the likely error made by the other student.

10. Identify, then correct, any errors in the student work below. How do you think the errors occurred?


$$\begin{aligned} & (-2)^4 - (-3)^3 \div (-9)^0 \times 2^3 \\ & = 16 - 27 \div (-1) \times 8 \\ & = -11 \div (-1) \times 8 \\ & = 11 \times 8 \\ & = 88 \end{aligned}$$