

Pg 432-433 #1-19, 29-32

1. no; Any nonzero base raised to the zero power is always 1.
2. Use the definition of negative exponents to rewrite it as $\frac{1}{10^3}$. Then evaluate the power to get $\frac{1}{1000}$.
3. 5^{-5} , 5^0 , 5^4
4. Write $(-3) \cdot (-3) \cdot (-3)$ as a power.; $(-3)^3$; 3^{-3}
5. 1
6. 125
7. 1
8. 1
9. $\frac{1}{36}$
10. 1
11. $\frac{1}{16}$
12. $-\frac{1}{3}$
13. $5\frac{1}{4}$
14. $\frac{1}{243}$

15. $\frac{1}{125}$

16. 1

17. The negative sign goes with the exponent, not the base.

$$(4)^{-3} = \frac{1}{4^3} = \frac{1}{64}$$

18. 10,000,000 grains of sand

19. 2^0 ; 10^0

29. 100 mm

30. 10,000 micrometers

31. 1,000,000 nanometers

32. 1,000,000 micrometers