

Exponent power: Powers of 3

Complete this table of powers of two in both directions.
Use a calculator if you need to.

3^{-7}	3^{-6}	3^{-5}	3^{-4}	3^{-3}	3^{-2}	3^{-1}	3^0	3^1	3^2	3^3	3^4	3^5	3^6	3^7	3^8	3^9	3^{10}	3^{11}
									9	27	81	243	729					

1. The ones digit of 3^5 is 3. The ones digit of 3^6 is 9. What is the ones digit of...?

a. 3^{12}

b. 3^{33}

c. 3^{101}

d. 3^{999}

2. Use your calculator to solve these problems:

a. $9 \times 81 =$

b. $243 \times 3 =$

c. $81 \times 729 =$

d. $729 \times 3 =$

e. $243 \times 243 =$

3. What is true about all the answers in Question 2
Why does this happen?

4. Use your calculator to solve these problems:

a. $243 \div 9 =$

b. $81 \div 3 =$

c. $729 \div 27 =$

d. $81 \div 81 =$

e. $6,561 \div 81 =$

5. What is true about all the answers in Question 4.
Why does this happen?