Powers and Exponents – Extra Practice

1. Identify the base of each power.

a) 63 b) 27 c) (–5)4 d) –70

2. Use repeated multiplication to show why 35 is not the same as 53.

3. Complete this table.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Power | Base | Exponent | Repeated Multiplication | Standard Form |
| 44 |  |  |  |  |
| (–10)3 |  |  |  |  |
|  | –6 | 2 |  |  |
|  |  |  | 1 × 1 × 1 × 1 × 1 |  |

4. Write each product as a power, then evaluate.

a) 6 × 6 b) 3 × 3 × 3 × 3 × 3 × 3

c) 10 × 10 × 10 × 10 d) –(8 × 8 × 8)

e) (–8)(–8)(–8) f) –(–8)(–8)(–8)

5. Write each power as repeated multiplication, then evaluate.

a) 75 b) 46 c) –93 d) (–5)5

6. A single bacterium divides into 2 every 20 minutes. How many bacteria will there be after 8 hours.

a) write an expression to represent this problem using powers.

b) evaluate the expression using a calculator.

7. Predict whether each answer is positive or negative, then evaluate.

a) (–3)2 b) (–3)3 c) –32 d) –(–3)3

8. Is the value of –24 different from the value of (–2)4? Explain.

9. Stamps are sold in a 10 by 10 sheet. The total value of a sheet of stamps is $60.00.

a) Express the number of stamps as a power and in standard form.

b) Use grid paper. Draw a picture to represent this power.

c) What is the value of one stamp?

**10**. Evaluate each power

1. 106 b) -109 c) -100  d) 103