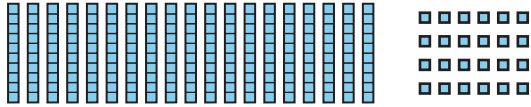


MODULE 1: Pre-number Concepts and Place Value- Practice Questions

1. Sketch the base pieces for the unit, long, and flat for each of the bases:
 - a. Base seven
 - b. Base three

2. Sketch the minimum number of base-ten pieces needed to replace the set below:



3. Sketch the minimum number of base pieces for the bases given below to represent the following set of units. Then write the number of units in positional notation for the given base.



- a. Base seven
 - b. Base five
4. Determine the total number of units to which the base pieces are equivalent for the given base.
 - a. Base five: 3 flats, 4 longs, 3 units
 - b. Base eight: 6 flats, 0 longs, 5 units
 5. Write each of the numbers below in expanded form:
 - a. 256,049
 - b. 4033_{five}
 6. Determine the value of each underlined digit and its place value.
 - a. 436,089
 - b. 111,111_{five}
 - c. 73,783,220
 7. Write the names of the following numbers.
 - a. 4050
 - b. 567,428,921
 - c. 70,194,733
 - d. 5,211,433,289

8. Round 43,668,926 to the nearest given place value below.
 - a. Hundred thousand
 - b. Ten thousand
 - c. Thousand
 - d. Hundred

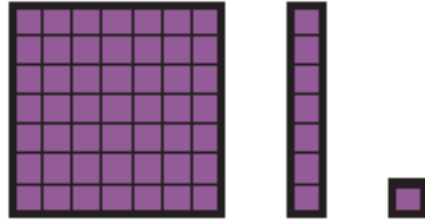
9. Make a sketch of the given model for each number of units.
 - a. 108, using the bundle-of-sticks model
 - b. 570, using base-ten pieces
 - c. 93, using base-five pieces
 - d. 70, using base-twelve pieces

10. If the calculator view screen displays nine digits and that numbers are entered into the calculator using only the keys 1,2,3,4,5,6,7,8 and 9.
 - a. What is the smallest whole number that can be formed to fill the calculator view screen if each of these keys is used exactly once?
 - b. What is the smallest whole number that can be formed to fill the calculator view screen if a key can be used more than once?

Module 1 Practice Question Answers

1.

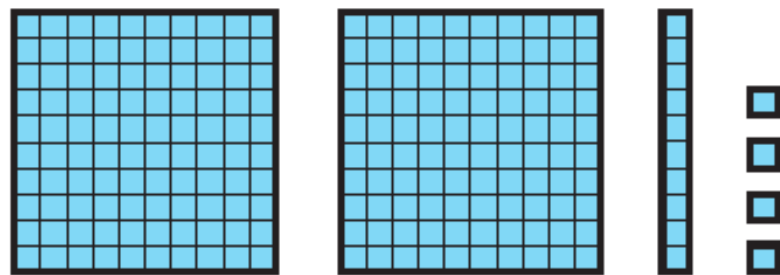
a.



b.

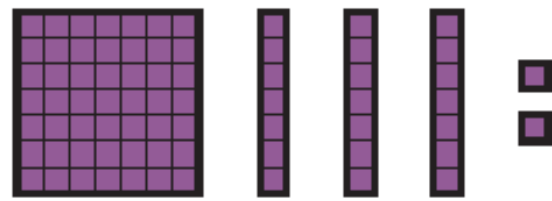


2.



3.

a. 132_{seven}



b. 242_{five}



4.

a. 98 units

b. 389 units

5.

a. $2(10^5) + 5(10^4) + 6(10^3) + 0(10^2) + 4(10^1) + 9(10^0) =$
 $2(100000) + 5(10000) + 6(1000) + 0(100) + 4(10) + 9(1)$

b. $4(5^3) + 0(5^2) + 3(5^1) + 3(5^0) = 4(125) + 0(25) + 3(5) + 3(1)$

6.

a. The value is 30,000; the place value is ten thousands

b. The value is 3125; the place value is 5^5

c. The value is 70,000,000; the place value is ten millions

7.

a. Four thousand fifty

b. Five hundred sixty-seven million, four hundred twenty-eight thousand, nine hundred twenty-one

c. Seventy million, one hundred ninety-four thousand, seven hundred thirty-three

8.

a. 43,700,000

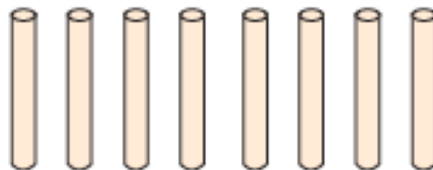
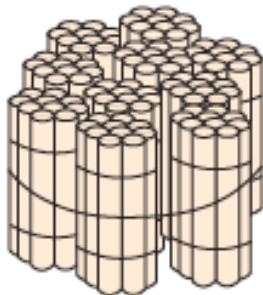
b. 43,670,000

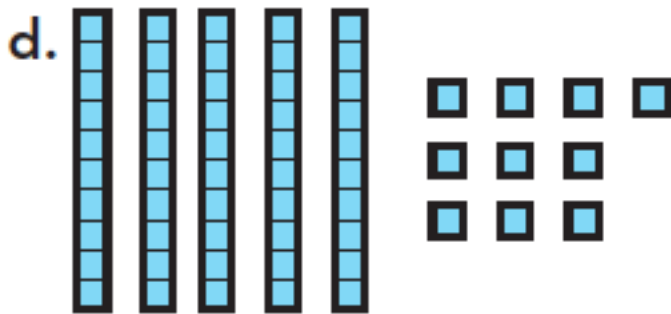
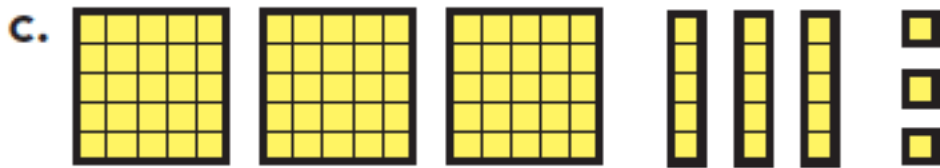
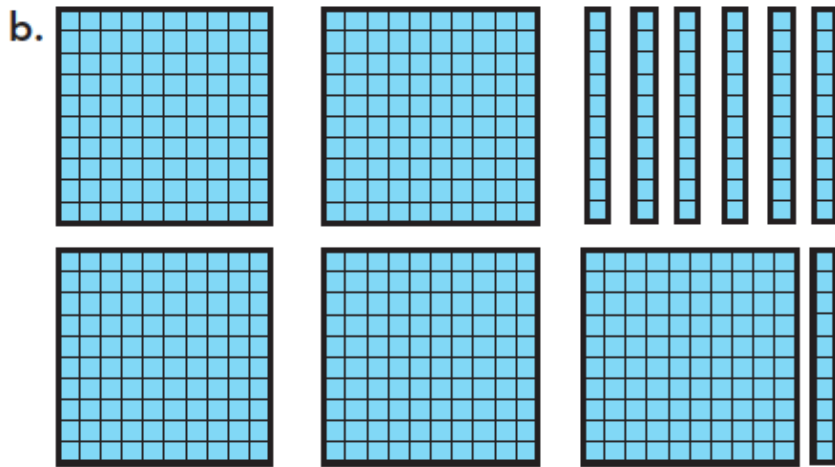
c. 43,669,000

d. 43,668,900

9.

a. 108





10.

a. 123,456,789

b. 111,111,111