

# Division

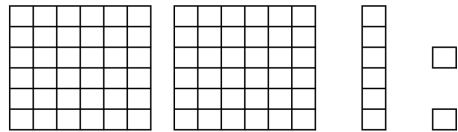
While working in a group make sure you:

- Expect to make mistakes but be sure to reflect/learn from them!
- Are civil and are aware of your impact on others.
- Assume and engage with the strongest argument while assuming best intent.

**Definition Division** For any whole number  $r$  and  $s$  with  $s \neq 0$ , the quotient of  $r$  divided by  $s$ , written  $r \div s$ , is  $k$ , if it exists, such that  $r = s \times k$ .

1. Consider the number represented with two flats, one long, and 2 units shown below.

- (a) Write the number of units in positional notation for the given base.



- (b) Divide the above number by  $4_{\text{six}}$  using the share model.

**Algorithm Division** For any whole numbers  $a$  and  $b$ , with divisor  $b \neq 0$ , there are whole numbers  $q$  and  $r$  so that

$$a = bq + r$$

and  $0 \leq r < b$ .

2. Find the quotient and remainder when  $212_{\text{six}}$  is divided by  $4_{\text{six}}$ .

3. Evaluate  $112_{\text{five}} \div 4_{\text{five}}$