Median: 8

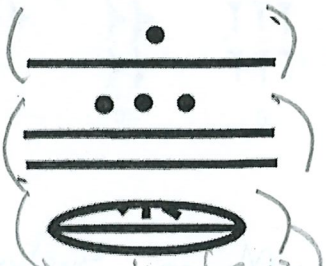
Key

Quiz 3

This is a two-stage quiz. During the first stage, use your knowledge & calculator to take this quiz. You have 15 min. In the second stage, you are now welcome to use your books, notes, and students in the class to retake the same quiz. You have 15 min. to write one solution (with everyone's name on it!!!) to be turned in for the group.

Show *all* your work. Reasonable supporting work must be shown for any partial credit.

1. Consider the number written on the left:



twenty squared

twenties

units

(a) [2] Identify what number system the number is written in. (Hindu-Arabic? Egyptian? Roman? Babylonian? Mayan?)

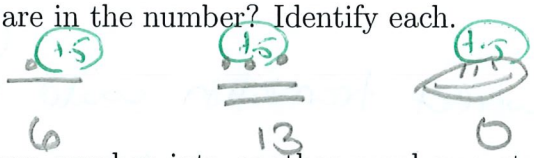
Out 8 class

(can check at symbols/digits on back of quiz)

(b) [2] How many digits are in the number? Identify each.

Out 8 class 3.1 #38

3 digits; (1.5)



(1.5) (1.5) (1.5)

6 13 0

(c) [3] Translate the above number into another number system. Clearly indicate what number system you are using & provide steps as you would for a 2nd grader. start (1.5) (1.5)

Number system #1

Correct answer is on back

First lets translate the digits using the key on the back. We have 6 13 0. We would write this more like 6 13 0. But those digits are telling us how many powers of 20 there are? So there are 6 (twenty squared) + 13 (twenties) and 0 (units) or $6 \cdot 20^2 + 13 \cdot 20 + 0$ (+1) positional number system. or 2660 our own Hindu-Arabic number system.

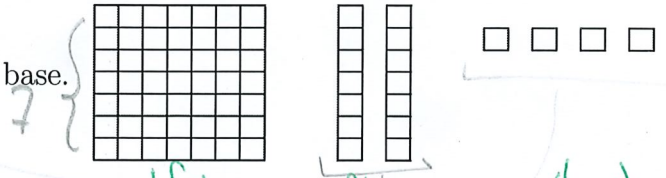
(1.5) (1.5)

2400 + 260

2. Consider the number represented with one flat, 2 longs, and 4 units shown below.

Written HW 3.1 #11

(a) [1] Write the number of units in positional notation for the given base.



7

1 flat 2 longs 4 units (1.5)

1 2 4 seven

Written HW 3.1 #14

(b) [2] Determine the total number of units, reporting in the Hindu-Arabic number system.

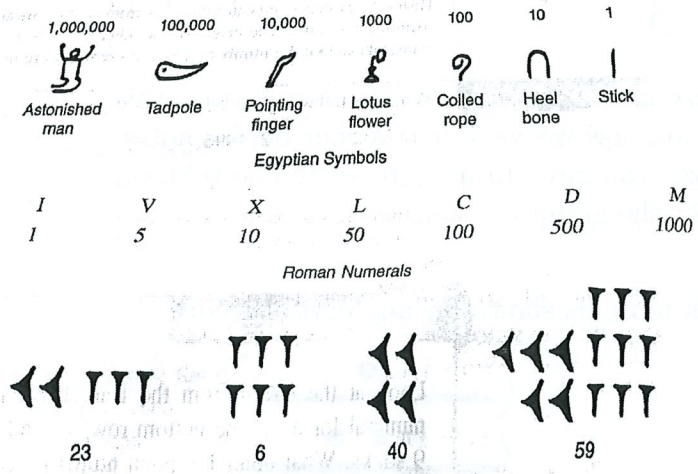
↳ i.e. our usual system

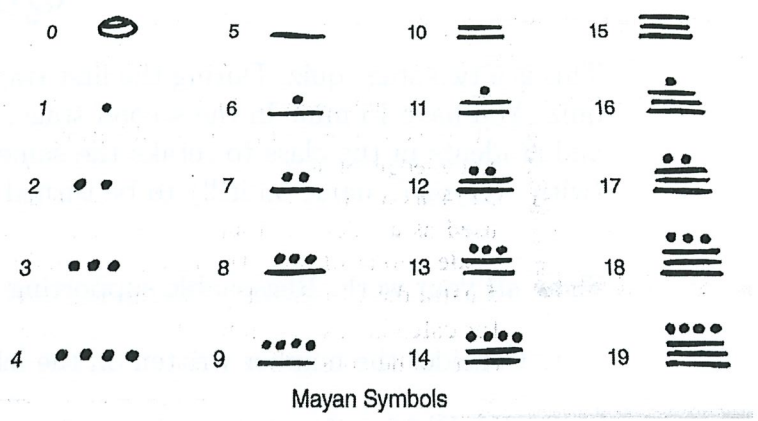
add up (1.5)

(1.5) $7 \cdot 7 + 2 \cdot 7 + 4 \cdot 1 = 67$ start (1.5) notation (1.5)

1 flat + 2 longs + 4 units

* How I expected the answer given that we did not cover 3rd digit is coming 3rds





The Mayan System is positional (three hundred and sixties)
(twenties)
(units)

So the correct translation would be

6 · (three hundred and sixty) + 13 (twenties) + 0

or 2420