1 a. Mayans had a symbol indicitave of the number zero that Babylonians did not have.

b. Fish, fish, fish; fish, fish, fish was primarily shown to display the difference in primative? counting and modern arithmatic using one to one correspondence (in a sense) with words and fish vs. using addition. Rock groups discusses similar counting styles as the Sesame Street character sort of made a rectangle with his words (fish fish fish / fish fish fish) and groups of rocks can be used to show numbers as prime or composite depending on whether they can be formed into some form of rectangle or have to be a straight line.

c. Yanghui's triangle was first and is the same as Pascal's triangle (rows equal powers of 2, second diagonal being counting numbers etc.) but Yanghui's uses bamboo sticks while Pascal's uses our standard Hindu-Arabic notation.

d. Strogatz regards Roman numerals as something along the lines of needlessly extravagant and time consuming compared to other counting systems.

No place value

e. skip

Problem 1:

a. The mayans had the number zero and the Babylonians did not.

b. The point was instead of saying "fish, fish, fish, fish, fish, fish" its much more easier and effective to say "6 fish." Rock groups demonstrated this as we can group rocks together into squares to determine if a number is prime or not. For example odd #'s make a 'L shape where as even #'s such as 6, 8, or 10 make squares. → ⁘, ∷∷, ⁙⁙

c. Yanghui's was earlier, but was an earlier representation of pascals triangle. It was a Chinese Pascals triangle.

d. SKIP

e. Pebbles & tallys. Pebbles were used as a one-to-one correspondence for counting sheep. One pebble equaled one sheep. If a sheep died, subtract a pebble, if a sheep was born, add a pebble. A second one was tallys. This was used for accounting or eventhings such as selling bread. A baker and a woman would each have a stick. Each time the baker sold a loof, his stick and her stick would get a tally. At the end of the week they would compare tallys and she would pay for the # of loaves she bought based on the tallyes.

ⓔ The ancient systems used one to one correspoondance 2 examples would be the shepard and the pouch of pebbles and the tally sticks. The Shepard would count his sheep by having one pebble represent one rock (if one is lost/dies, a rock is thrown out; for a birth, one is added). The tally stick is a stick that used notches in order to count, like the baker and customer putting the same notches to keep track of their purchases.

2.a. 66 (1,0,0,0,0,1,0)

33 33 0
16 16 1
8 8 0
4 4 0
2 2 0
1 1 0

b. 66→55+8+3 I would take 3 because the lowest fibonacci used to add to 66 is 3.

10

Problem 2: 65

a. 65

32 32 1
16 16 0
8 8 0
4 4 0
2 2 0
1 1 0

1000001

b. 65

55 10
8 2

2 counters because it is the lowest Fibonacci number the 65 is broken down to

10

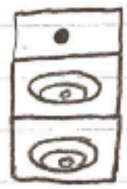
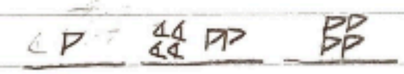
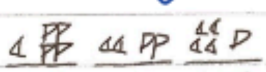
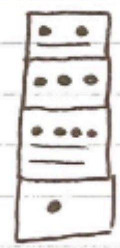
3 a. The idea of one-to-one correspondance is that one of an object is indicitave of one of another object such as using 7 of my fingers to represent each of the 7 sheep I own. good

3 b. Uniqueness is vital to the Binary card trick as the trick only works because every number is a unique sum of powers of 2 and that uniqueness is what allows Frandini to quickly know a number after adding the powers of 2 on each card the person's number is present on.

Good description

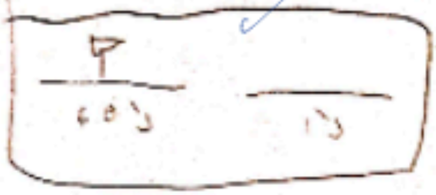
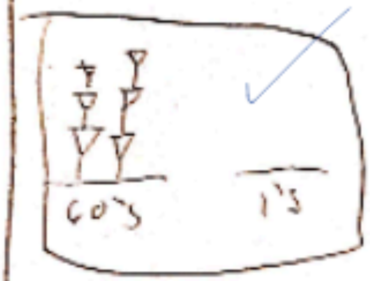
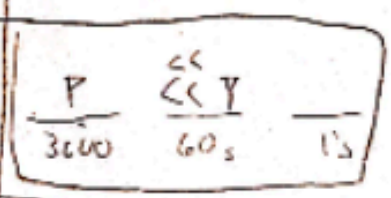
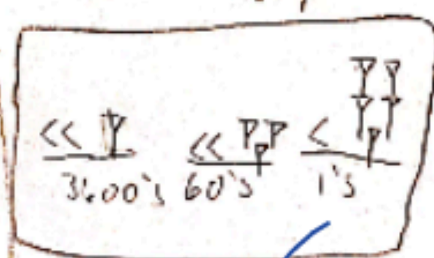
10

Problem 4:

	Babylonian	Mayan
60	 60' — 60°	60 ^ 20·3, 0 
360	360 ^  60' — 60°	360 ^ 
6124	 60² 60' 60° 3600 2524	6124 ^ 360·17, 4  17 0 4
51761	 60² 60' 60° 14 22	51761 ^ 7·7200, 1361 − 1080 ^ 3·360, 281 − 280 ^ 20·14, 1 50400 

51761
−50400
1361
−1320
41

4. (20) Alex Wittinger

Number	Babylonian	Mayan
60	60 < 60·1, 0  60's 1's	60 < (20·3), 0 
360	360 ÷ 60 = 6  60's 1's	360 < 360·1, 0 
6060	6060 3600 2400 60 41  3600 60s 1's	 6060 360·16 300 20 15
76995	76995 < 3600·21, 1395 < 60·23, 15·1  3600's 60's 1's	 76995 (7200·10) 4995 (13·360) 315 (15·20) 15