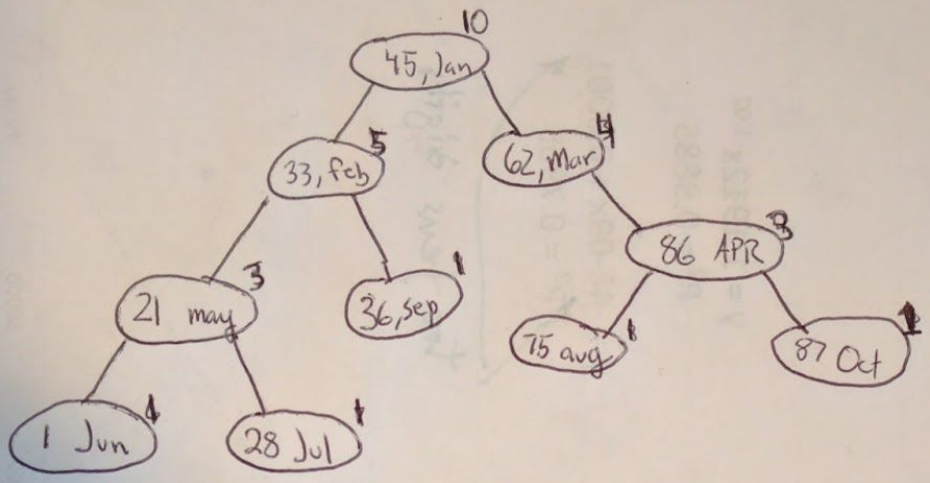
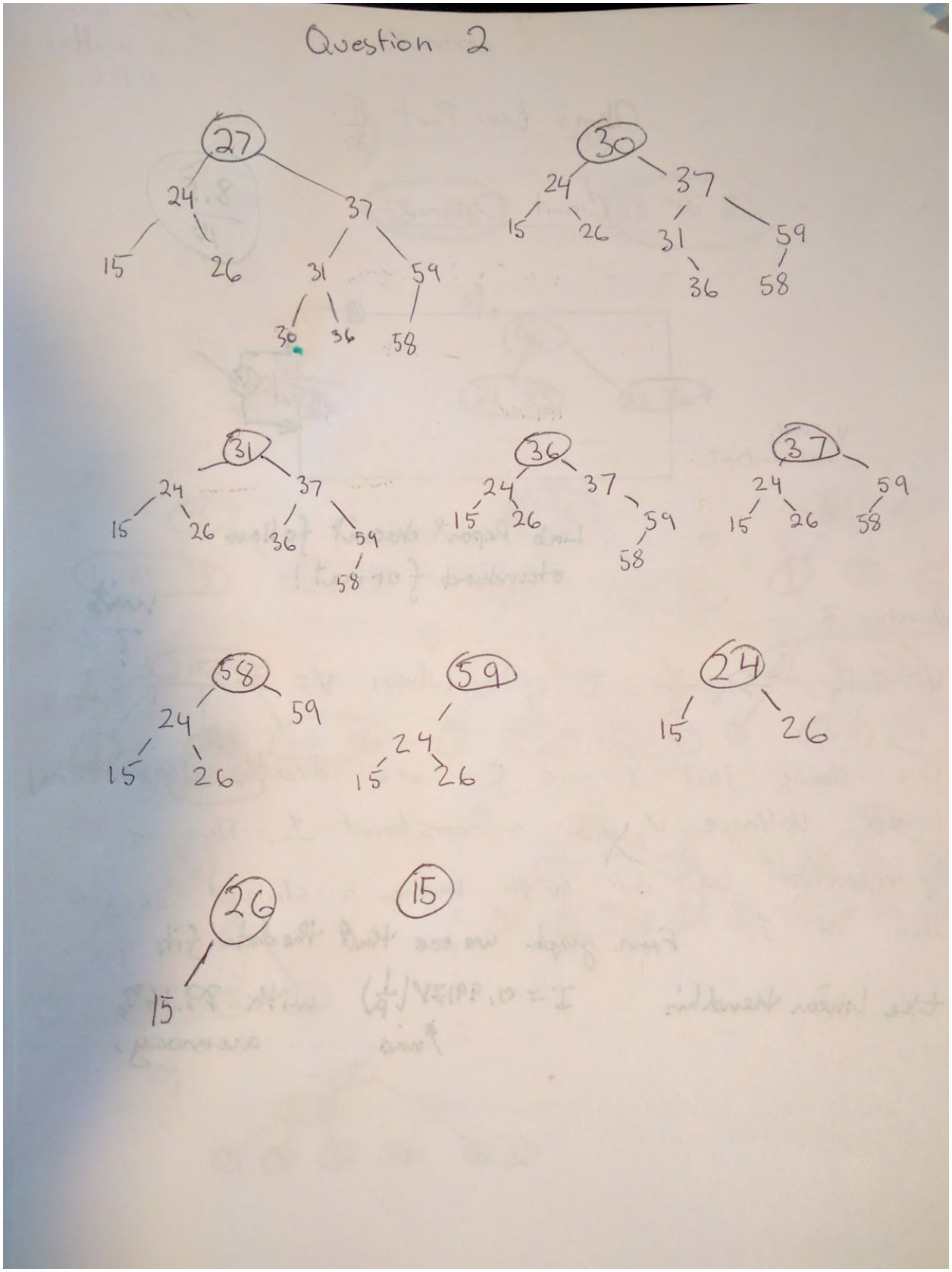
Question 1


10
45, Jan
5
33, Feb
4
62, Mar
3
21 may
1
36, Sep
3
86 APR
1
75 aug
1
87 Oct
4
1 Jun
1
28 Jul

Question 2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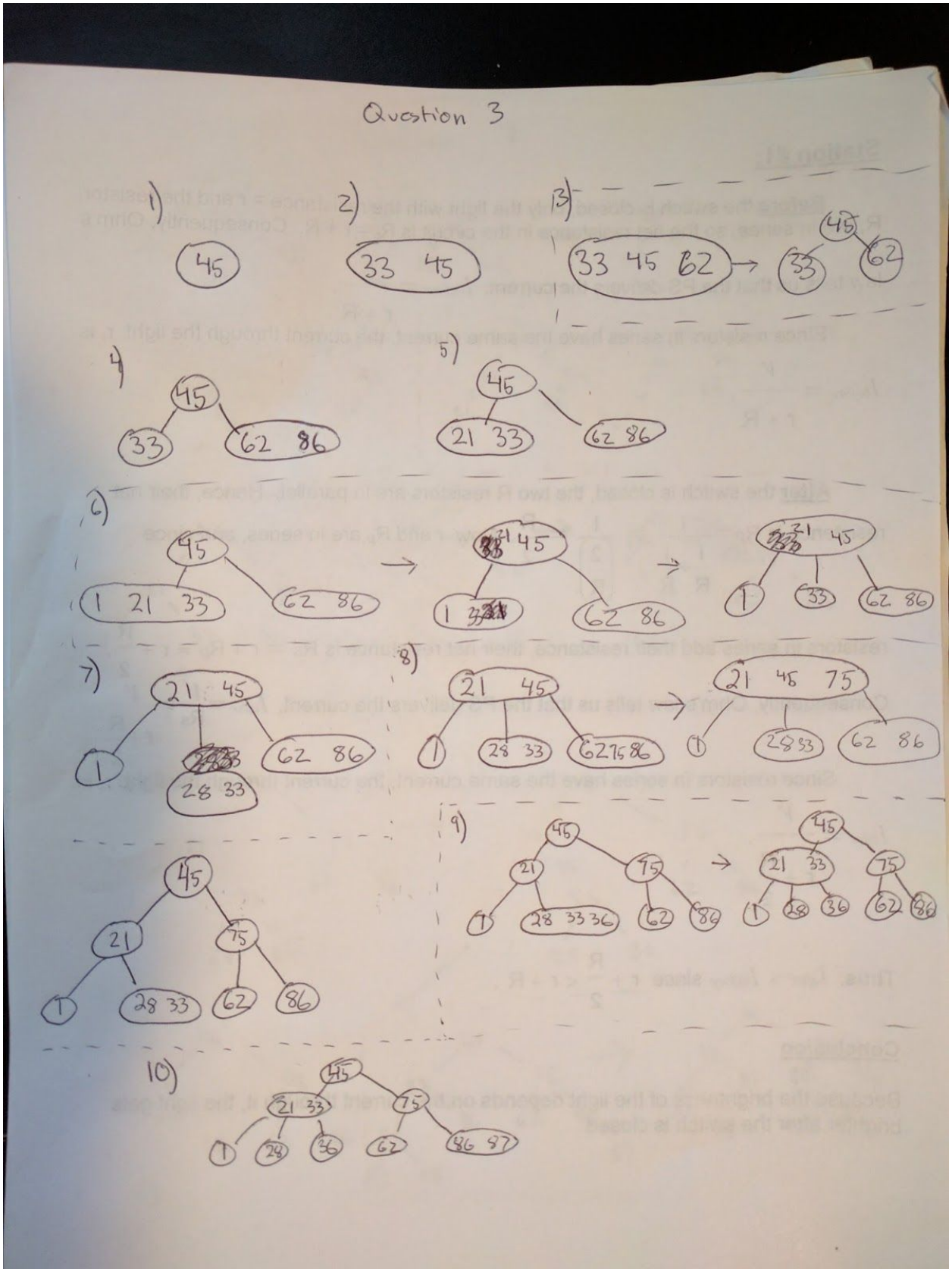
Question 3
1)
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2)
33 45
3)
33 45 62
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62
4)
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62 86
5)
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62 86
6)
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1 21 33
62 86
21 45
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7)
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28 33
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75
1
28 33
62
86
8)
21 45
1
28 33
62 75 86
21 45 75
1
28 33
62 86
9)
45
21
75
1
28 33 36
62
86
45
21 33
75
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36
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10)
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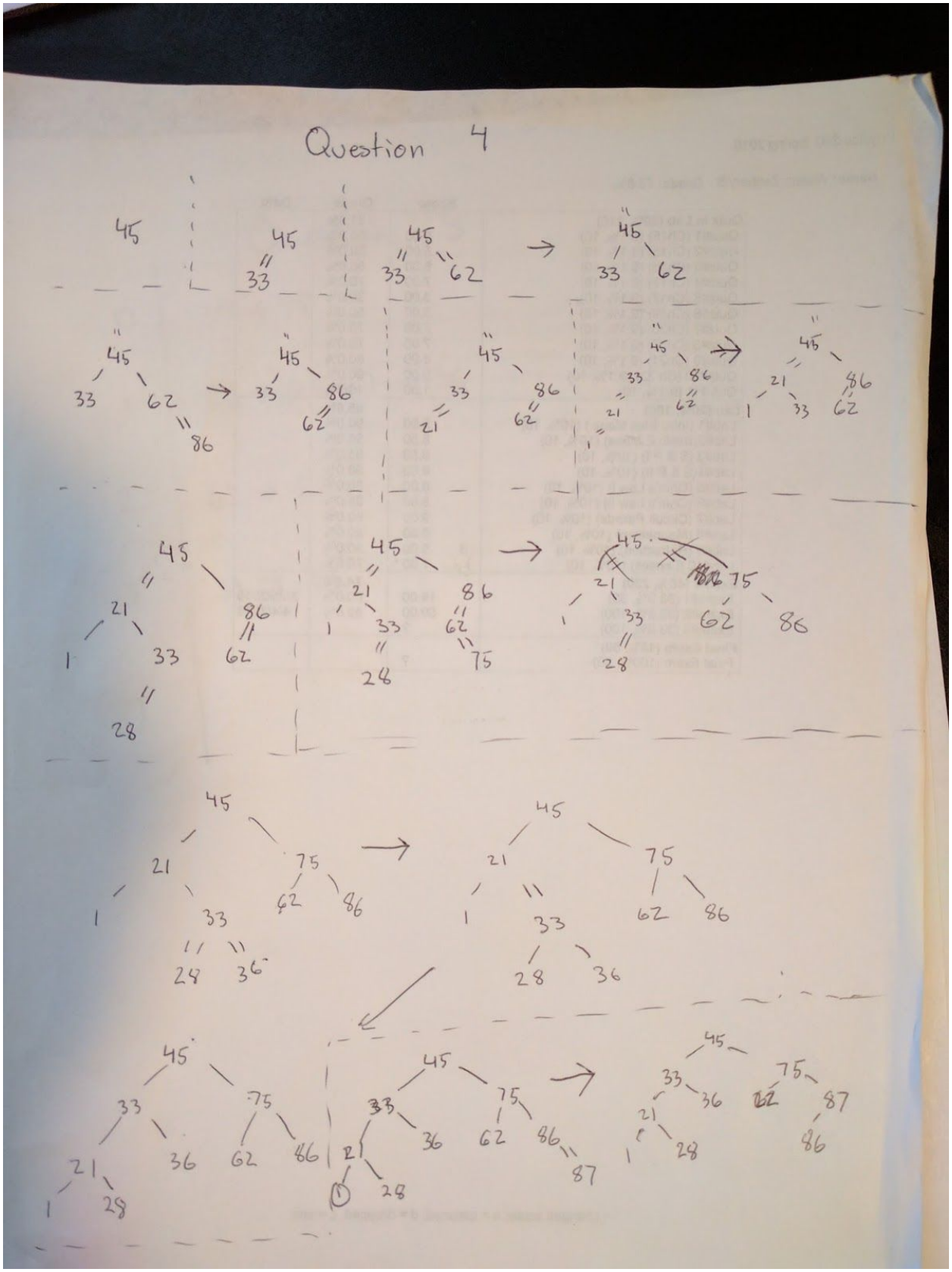
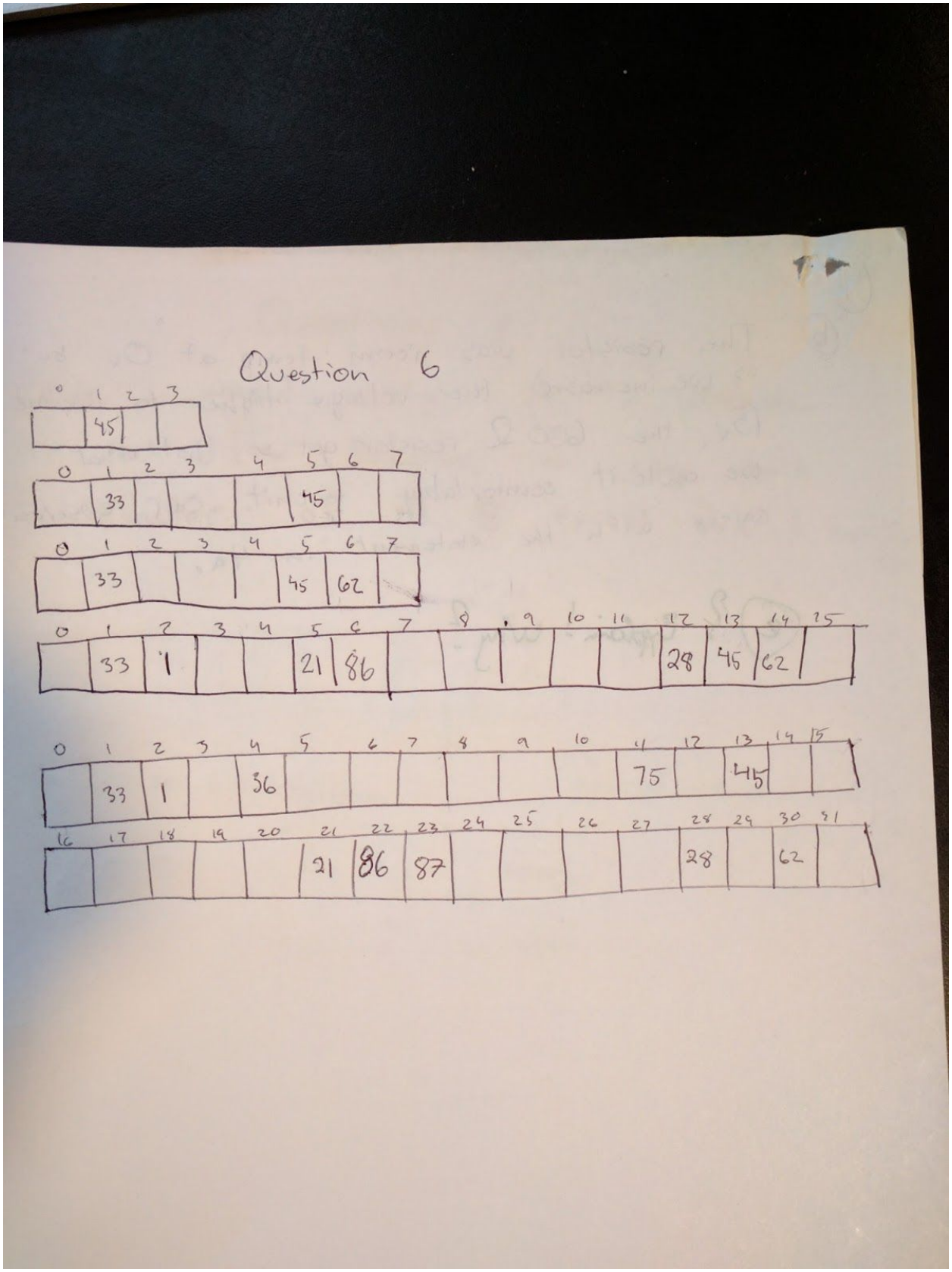
21 33
75
1
28
36
62
46 87


Question 4

Question 5

0	45 → 75
1	86 → 21 → 1 → 36
2	62 → 87
3	33 → 28
4	


Question 6
0 1 2 3
45
0 1 2 3 4 5 6 7
33 45
0 1 2 3 4 5 6 7
33 45 62
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
33 1 21 86 28 45 62
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
33 1 36 75 45
16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
21 86 87 28 62

Question 7

There would only be 2 possible keys that differ because no key would be a factor of M except for 1 and M keys.

Question 8

Doing $(a \cdot k) \% m$ does not mix up the integers sufficienty for m to not be prime. the reason is that by multiplying K by a you no longer are left with a prime number. In this case a is arbitrary.