

SATISFYING STATEMENTS

EXPLANATION

The problem

Alison = multiples of 5

Becky = triangular numbers

Sam = even, but not multiples of 4

Matt = multiples of 3 but not multiples of 9

Needs to be a 2 digit number

1. Find numbers that belong in two sets

2. Find numbers that belong in three sets

3. Find the smallest numbers that belong in all 4 sets

So

Q 1. 15, 21, 66, 78, 10, 30, 50, 70, 90, 28, 42, 48, 55, 60, 75

Numbers that meet Alison's and Becky's conditions are

10, 15, 45, 55

Numbers that meet Becky's and Sam's conditions are

10, 66, 78

Numbers that meet Sam's and Matt's criteria are

30, 42, 66

Numbers that meet Matt's and Alison's are

15,30,60,75,

Q 2. 15,66,78,10,30

KEY

Triangular numbers = blue

Multiples of 5 = green

Even but not multiples of 4 = green

Multiples of 3 but not multiples of 9 = orange

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

	1	2	3	4	5	6	7	8	9	10
1										
11	11	12	13	14	15	16	17	18	19	20
21	21	22	23	24	25	26	27	28	29	30
31	31	32	33	34	35	36	37	38	39	40
41	41	42	43	44	45	46	47	48	49	50
51	51	52	53	54	55	56	57	58	59	60
61	61	62	63	64	65	66	67	68	69	70
71	71	72	73	74	75	76	77	78	79	80
81	81	82	83	84	85	86	87	88	89	90
91	91	92	93	94	95	96	97	98	99	100

← also yellow (pointing to column 10)
 ← also yellow (pointing to column 8)
 ← also yellow (pointing to column 5)
 ← also yellow (pointing to column 2)
 ← also yellow (pointing to column 9)

Q 3. X It is impossible, But why???

A .numbers that are multiples of five as well ase triangular numbers are 10, 15, 45 and 55. Out of these four numbers 10 is the only even no. but it is not the multiple of 3. We did not find any two digit nos that meet all four conditions.

Numbers that have three criteria are

15,66,78,10,30

15 does not match Sam's criteria

66 and 78 are not multiples of 5

10 is not multiple of 3

And 30 is not a triangular numbers.