

5.3 Answers

5.3.1 Solutions to 5.2 Exercise

Answer 1

{Factors of 6} = {1, 2, 3, 6}

So $n\{\text{Factors of 6}\} = 4$

[2 marks]

Answer 2

{Factors of 30} = {1, 2, 3, 5, 6, 10, 15, 30}

So $n\{\text{Factors of 30}\} = 8$

[2 marks]

Answer 3

The smaller (red) number gives the number of factors.

[2 marks]

Answer 4

(i) $n\{\text{Factors of 93}\} = 4$

[1 mark]

(ii) $n\{\text{Factors of 52}\} = 6$

[1 mark]

(iii) $n\{\text{Factors of 66}\} = 8$

[1 mark]

(iv) $n\{\text{Factors of 97}\} = 2$

[1 mark]

Answer 5

(i)

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

[6 marks]

(ii) There are 25 primes less than 100.

[1 mark]

(iii) A prime has 2 factors exactly.
91 has 4 factors, {1, 7, 13, 91}
So 91 is not prime.

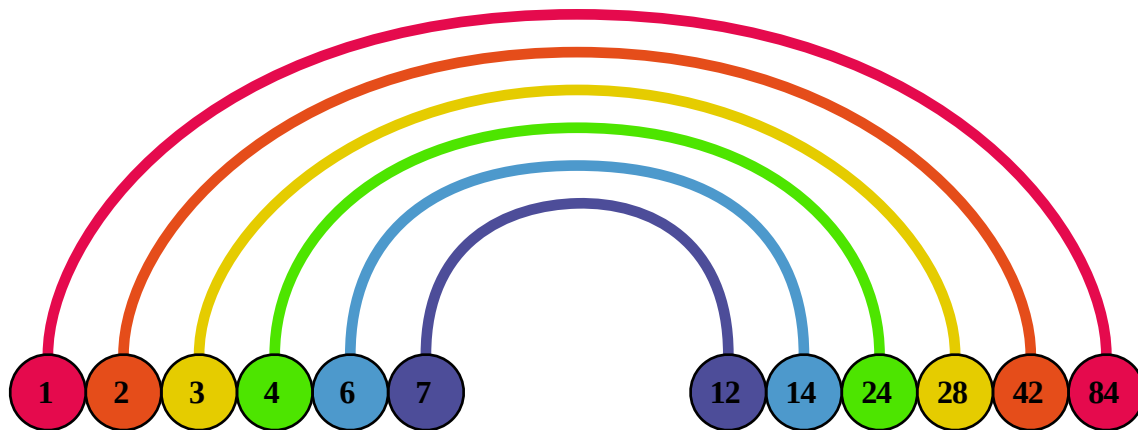
[1 mark]

(iv) A prime has 2 factors exactly.
89 has 2 factors, {1, 89}
So 89 is prime.

[1 mark]

Answer 6

(i)



[9 marks]

(ii) {Factors of 84} = {1, 2, 3, 4, 6, 7, 12, 14, 24, 28, 42, 84}

[1 mark]

(iii) {Prime factors of 84} = {2, 3, 7}

[1 mark]