Prime Numbers: The Prime Number Code

Basic

1) On the grid below:

Colour 1.

Colour all the multiples of 2 that are greater than 2.

Colour all the multiples of 3 that are greater than 3.

Colour all the multiples of 5 that are greater than 5.

Colour all the multiples of 7 that are greater than 7.

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

- a) Why do you not need to colour in all the multiples of 4?
- b) Why do you not need to colour in all the multiples of 6?
- c) Why do you not need to colour in all the multiples of 8?
- d) Why do you not need to colour in all the multiples of 9?
- e) Why do you not need to colour in all the multiples of 10?

Core

1) On the grid below:

Colour 1.

Colour all the multiples of 2 that are greater than 2.

Colour all the multiples of 3 that are greater than 3.

Colour all the multiples of 5 that are greater than 5.

Colour all the multiples of 7 that are greater than 7.

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

- a) Why do you not need to colour in all the multiples of 4?
- b) Why do you not need to colour in all the multiples of 6?
- c) Why do you not need to colour in all the multiples of 8?
- d) Why do you not need to colour in all the multiples of 9?
- e) Why do you not need to colour in all the multiples of 10?

2)	Using ta	actor tre	es, express	each of	these	numbers	as a	product	Ot	primes:
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a) 18

b) 81

c) 50

d) 72

e) 49

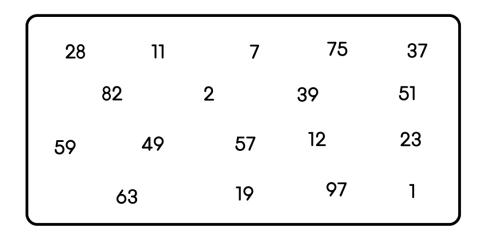
f) 100

g) 52

h) 600

Advanced

1) Circle all the prime numbers in the following list:



- 2) Using factor trees, express each of these numbers as a product of primes:
 - a) 18
- b) 81
- c) 50
- d) 72

- e) 49
- f) 100
- g) 52
- h) 600
- 3) Express each of the above numbers as a product of powers of primes.
- 4) Express each of the following as product of powers of primes:
 - a) $3^3 \times 5^2$
- b) $2^3 \times 3^5$
- c) 5 x 13²
- d) $5^3 \times 17^2$

- e) 2³ x 5² x 7
- f) 5³ x 13² x 19
- g) 2⁸ x 5²
- h) 19³ x 29²
- 5) Express each of the following numbers as a product of powers of primes:
 - a) 1323
- b) 4225
- c) 2400
- d) 36125

- e) 103680
- f) 11025
- g) 10290
- h) 3757