

# GOOD TIMES WITH PRIMES

**DIRECTIONS:**

Each letter below is followed by a number. Cross out each PRIME number and its letter. Several letters will be left in each line. Write these letters, reading across from left to right, in the space under each row of letters and numbers.

YOU WILL SPELL OUT THE WORDS OF A TERRIFIC NEW SONG (make up your own tune!)

L22 R5 A15 P47 U49 M59 G36 H90 R61 S3 A75 N64 D9 C19 S38 R7 I72 Y73 N55 G8

M2 H6 A98 K3 V42 E20 H97 A32 Y89 T43 F4 H17 L81 O13 A79 I69 N48 L5 K31 G27

R8 A29 I67 E51 E7 A16 L33 D23 L78 Y4 S54 T71 H2 W77 I63 O83 U53 N1 G88 T37

D48 O45 N5 T11 P41 Y4 O68 I67 C23 U39 R56 K3 T9 I17 H28 M7 I87 N14 E79 G18

B3 M12 A62 K43 E37 T93 T31 H15 I57 S99 N19 T59 K81 O7 I8 N41 N1 X97 G26 M5



# What's a Grecian urn?



EXPRESS EACH OF THE NUMBERS BELOW AS A PRODUCT OF PRIME FACTORS. PLACE THE FACTORS IN ASCENDING ORDER. THE LETTER NEXT TO EACH NUMBER TAKES THE VALUE OF THE THIRD PRIME FACTOR, GIVING THE PUZZLE CODE.

$$18 = \underline{\hspace{2cm}}$$

$$= \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} \times \underline{\hspace{1cm}}$$

**y**

$$174 = \underline{\hspace{2cm}}$$

$$= \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} \times \underline{\hspace{1cm}}$$

**o**

$$370 = \underline{\hspace{2cm}}$$

$$= \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} \times \underline{\hspace{1cm}}$$

**a**

$$52 = \underline{\hspace{2cm}}$$

$$= \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} \times \underline{\hspace{1cm}}$$

**i**

$$92 = \underline{\hspace{2cm}}$$

$$= \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} \times \underline{\hspace{1cm}}$$

**f**

$$70 = \underline{\hspace{2cm}}$$

$$= \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} \times \underline{\hspace{1cm}}$$

**l**

$$88 = \underline{\hspace{2cm}}$$

$$= \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} \times \underline{\hspace{1cm}}$$

**r**

$$140 = \underline{\hspace{2cm}}$$

$$= \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} \times \underline{\hspace{1cm}}$$

**t**

$$102 = \underline{\hspace{2cm}}$$

$$= \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} \times \underline{\hspace{1cm}}$$

**d**

$$66 = \underline{\hspace{2cm}}$$

$$= \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} \times \underline{\hspace{1cm}}$$

**b**

$$76 = \underline{\hspace{2cm}}$$

$$= \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} \times \underline{\hspace{1cm}}$$

**u**

$$124 = \underline{\hspace{2cm}}$$

$$= \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} \times \underline{\hspace{1cm}}$$

**s**

37	11	29	19	5	23	13	23	5	3	
17	29	7	7	37	2	31	37	17	37	3

# PRIMES AND COMPOSITES

Name \_\_\_\_\_

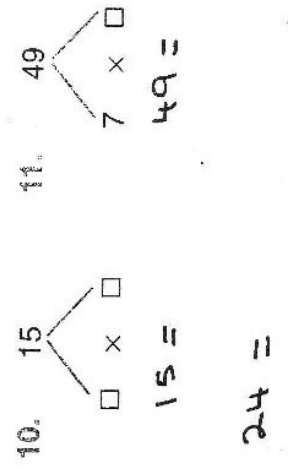
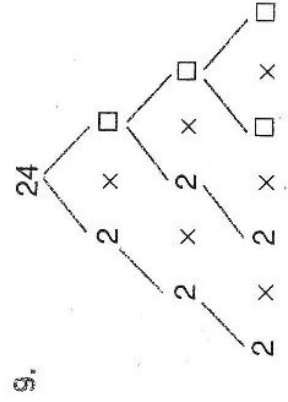
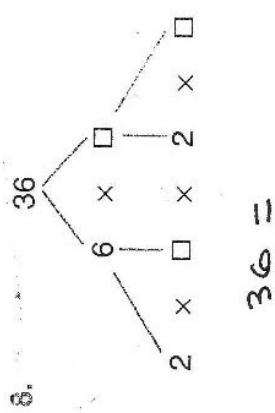
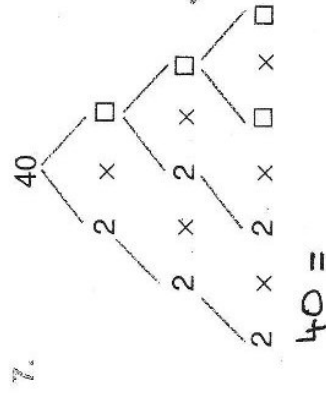
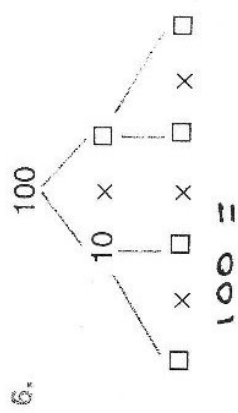
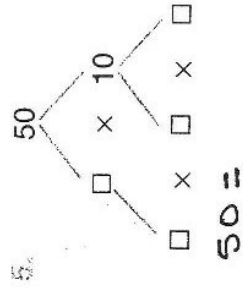
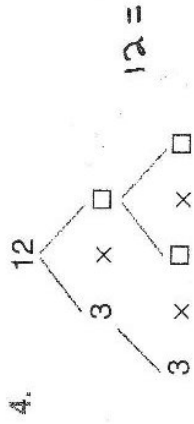
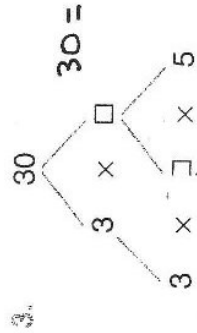
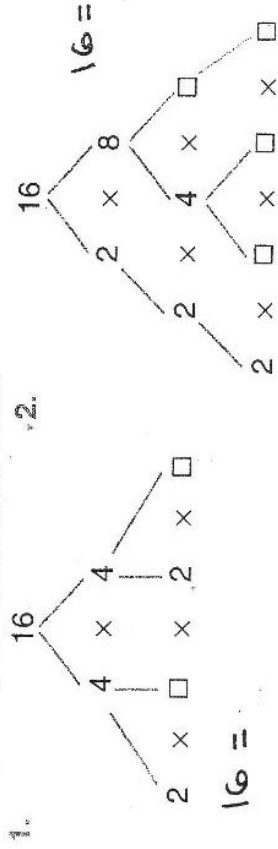
complete these factor trees.

Number	Factors	Prime or composite?
2	1 x □	
3	1 x □	
4	1 x □ 2 x □	
5	1 x □	
6	1 x □ 2 x □	
7	1 x □	
8	1 x □ 2 x □	
9	1 x □ 3 x □	
10	1 x □ 2 x □	
11	1 x □	
12	1 x □ 2 x □ 3 x □	
13	1 x □	
14	1 x □ 2 x □	
15	1 x □ 3 x □	
16	1 x □ 2 x □ 4 x □	
17	1 x □	
18	1 x □ 2 x □ 3 x □	
19	1 x □	
20	1 x □ 2 x □ 4 x □	

2. Which of these numbers are prime?

13 22 16 17 15 11 12 23

3. Which number is both even and prime?







## 2.3 Prime numbers

CONTINUED 

Number grid

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
101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120

A mathematician named Goldbach proposed that:

*Every even number, except 2, can be written as the sum of two prime numbers (which can be the same).*

**16** Complete this list by writing each number as the sum of two prime numbers.

$4 = 2 + 2$

$20 = \underline{\hspace{2cm}}$

$36 = \underline{\hspace{2cm}}$

$6 = 3 + 3$

$22 = \underline{\hspace{2cm}}$

$38 = \underline{\hspace{2cm}}$

$8 = 3 + 5$

$24 = \underline{\hspace{2cm}}$

$40 = \underline{\hspace{2cm}}$

$10 = 5 + 5$

$26 = \underline{\hspace{2cm}}$

$42 = \underline{\hspace{2cm}}$

$12 = 5 + 7$

$28 = \underline{\hspace{2cm}}$

$44 = \underline{\hspace{2cm}}$

$14 = 7 + 7$

$30 = \underline{\hspace{2cm}}$

$46 = \underline{\hspace{2cm}}$

$16 = \underline{\hspace{2cm}}$

$32 = \underline{\hspace{2cm}}$

$48 = \underline{\hspace{2cm}}$

$18 = \underline{\hspace{2cm}}$

$34 = \underline{\hspace{2cm}}$

$50 = \underline{\hspace{2cm}}$

# Prime Numbers

A prime number is a number which has only two factors (numbers which divide into it exactly).

The factors of 7 are 1 and 7. No other numbers divide into 7 exactly so 7 is a prime number.

Now shade in all the prime numbers in each set below and you will have a maths term you should know in each line!



Remember! One is not a prime - it only has one factor.

## A.

2	7	13	11	3
17	6	1	4	23
2	3	2	11	19
7	9	10	12	8
11	10	20	15	10

7	13	29	7	3
3	8	12	9	17
5	3	2	7	23
13	16	14	5	20
17	8	1	10	11

8	6	7	1	12
20	8	31	10	15
40	10	11	18	21
1	9	13	6	9
4	24	23	30	10

2	17	11	7	2
5	10	6	8	1
3	7	2	13	23
20	30	8	10	7
29	19	3	2	5

7	6	8	4	17
11	2	10	7	19
3	4	5	15	3
2	10	4	20	5
13	15	8	9	7

## B.

8	10	7	20	14
6	3	8	2	1
2	6	12	6	11
7	43	13	17	3
3	1	10	8	2

5	13	2	7	11
2	10	6	8	19
7	23	29	5	3
11	12	15	7	10
19	20	18	6	2

7	2	3	11	17
19	10	12	40	3
7	23	17	11	29
5	21	20	7	12
2	8	6	10	3

10	8	11	12	6
4	7	1	2	10
3	15	20	6	5
11	19	7	3	13
17	8	10	1	2

7	6	10	8	5
1	11	4	2	6
6	14	17	20	30
8	10	11	16	9
4	6	3	10	8

## C.

7	5	2	11	3
10	1	5	6	8
12	4	17	9	15
8	6	13	12	20
4	1	11	10	8

10	6	11	4	1
6	13	20	17	12
7	8	9	15	3
13	11	19	7	2
5	12	16	9	5

2	4	8	10	12
7	20	1	6	10
11	15	20	9	12
13	18	21	24	15
5	2	7	3	17

3	10	1	6	8
11	12	14	16	20
17	1	6	9	10
23	21	40	8	15
5	3	2	7	11

7	1	6	8	5
10	17	20	13	10
14	16	29	25	30
8	10	3	4	12
6	1	2	9	14

## D.

11	7	2	5	3
2	10	6	8	13
17	3	2	7	11
23	1	12	11	14
7	18	20	30	3

8	10	23	4	6
12	17	15	19	21
23	28	30	4	37
29	11	13	17	5
41	8	6	15	2

2	3	7	8	10
31	6	8	5	12
23	8	12	15	11
7	20	25	17	8
5	11	13	30	6

10	6	2	50	26
20	8	7	24	40
12	30	11	14	22
15	20	23	8	6
16	12	31	10	9

8	10	37	1	16
12	6	11	4	25
9	15	7	40	30
6	1	5	24	8
4	18	2	21	10