Appendix

Lesson 4.1: Prime Factors, GCF, and LCM

Practice – I

1. A simple cryptosystem uses algorithms with prime factors for encryption and decryption. Given the character code chart below, decrypt the code using prime factorization.

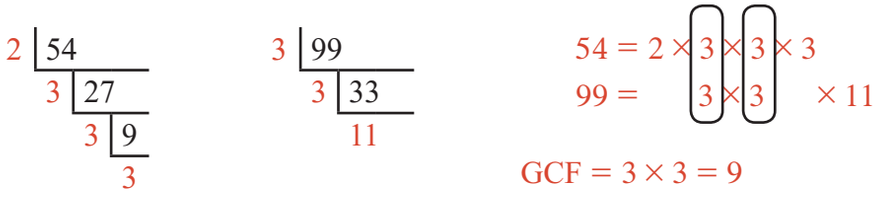
Character Codes

Code	Character	Code	Character	Code	Character
2×5	A	2×13	L	$3 \times 3 \times 5$	W
$2 \times 2 \times 3$	B	$3 \times 3 \times 3$	M	2×23	X
2×7	C	$2 \times 2 \times 7$	N	$2 \times 2 \times 2 \times 2 \times 3$	Y
3×5	D	$2 \times 3 \times 5$	O	7×7	Z
$2 \times 2 \times 2 \times 2$	E	$2 \times 2 \times 2 \times 2 \times 2$	P	$2 \times 5 \times 5$	$
$2 \times 3 \times 3$	F	2×17	Q	$2 \times 2 \times 13$	%
$2 \times 2 \times 5$	G	$2 \times 2 \times 3 \times 3$	R	$2 \times 3 \times 3 \times 3$	*
3×7	H	2×19	S	5×11	+
2×11	I	$2 \times 2 \times 2 \times 5$	T	$2 \times 2 \times 2 \times 7$	–
$2 \times 2 \times 2 \times 3$	J	$2 \times 3 \times 7$	U	2×29	.
5×5	K	$2 \times 2 \times 11$	V	$2 \times 2 \times 3 \times 5$	:

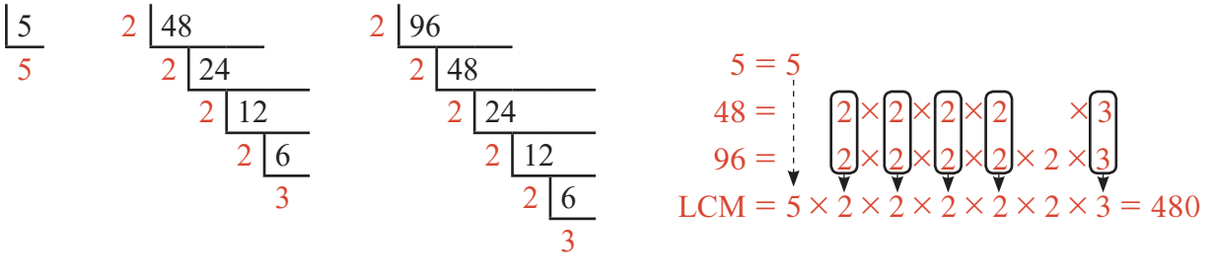
P	R	I	M	E	D		F	O	R
32	36	22	27	16	15		18	30	36

R	A	D	I	C	A	L	S	.
36	10	15	22	14	10	26	38	58

2. Determine the greatest common factor of 54 and 99.



3. Determine the least common multiple of 5, 48, and 96.



4. There are 18 male students and 24 female students in a grade 10 math class. The math teacher wants to divide the class into groups that will have equal amounts of girls in each group and equal amounts of boys in each group. What is the greatest number of groups that the teacher can make?

   Find the GCF for each gender.

   18 – 1, 2, 3, 6, 9, 18

   24 – 1, 2, 3, 4, 6, 8, 12, 24

   The greatest number of groups the teacher can create is 6 groups, each containing 3 males and 4 females.

Please complete *Lesson 4.1 Explore Your Understanding Assignment* located in *Workbook 4.1* before proceeding to *Lesson 4.2*.