Name Answer Key Date

Unit 1 Study Guide: Number Theory

List all factors of the given number.

24 1, 2, 3, 4, 6, 8, 12, 24

32 1, 2, 4, 8, 16, 32

42 1, 2, 3, 6, 7, 14, 21, 42

49 1, 7, 49

Round 7,845,309 to the nearest...

thousand 7,845,309 — 7,845,000

ten-thousand 7,845,309 — 7,850,000

hundred-thousand 7,845,309 — 7,800,000

million 7,845,309 — 8,000,000

$4^2 = 4 \cdot 4 = 16$ $2^3 = 2 \cdot 2 \cdot 2 = 8$ $5^2 - 2^2 = 25 - 4 = 21$ $4 \times 4 \times 8 \times 8 \times 8 = 4^2 \cdot 8^3$

Divisibility.

	Even?	Add digits	Last 2 digits	End in 0 or 5	2+3	Add digits	End in 0
782	(2)	17 3	4	5	6	17 9	10
412	(2)	7 3	(4)	5	6	7 9	10
519	2	15 (3)	4	5	6	15 9	10
288	(2)	18 (3)	(4)	5	(6)	18 (9)	10
525	2	12 (3)	4	(5)	6	12 9	10
930	(2)	12 (3)	4	(5)	(6)	12 9	(10)

Find the prime factorization (factor tree) for each number:

36: 9 × 4; 3 × 3 × 2 × 2 = $3^2 \times 2^2$

45: 9 × 5; 3 × 3 × 5 = $3^2 \times 5$

56: 8 × 7; 4 × 2; 2 × 2; 2 × 2 × 2 × 7 = $2^3 \times 7$

only 2 factors - 1 and the #

Prime or composite? (more than 2 factors)

19 Prime

27 Composite (2+7=9 (div. by 9))

51 Composite (5+1=6 (divisible by 3))

84 Composite (even (div. by 2))

Solve.

5413 − 1862 = 3551

$^{4}5\,^{13}4\,^{1}3$
$-\ 1\,8\,6\,2$

8,000 × 60 = 480,000 (3 zeros + 1 zero = 4 zeros)

24,000 = 30 × 800 (3; 1 needed; 2)