

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 ten-thousand 7,845,309 hundred-thousand 7,845,309 million 7,845,309

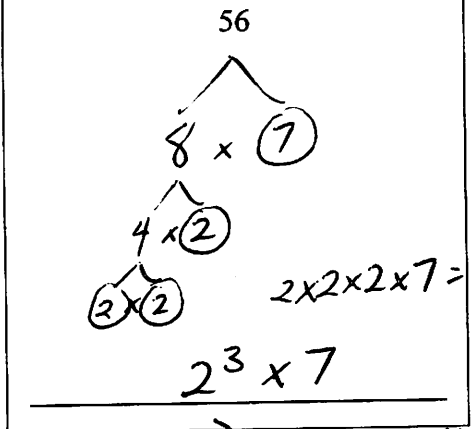
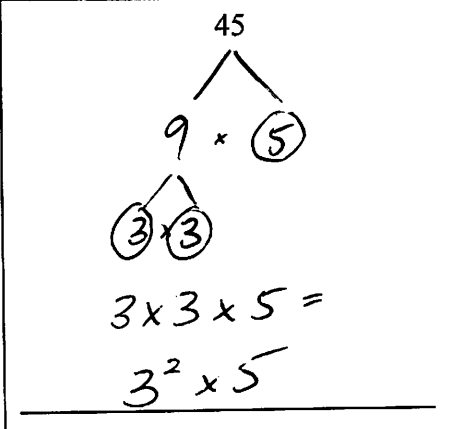
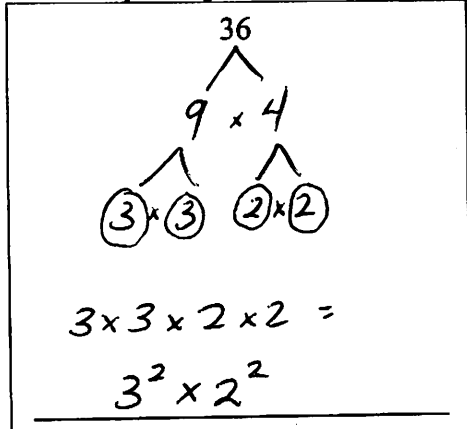
7,845,000 7,850,000 7,800,000 8,000,000

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

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:



only 2 factors 1 and the #

Prime or composite?
 19 Prime 27 Composite (more than 2 factors) 51 Composite ($5+1=6$ divisible by 3) 84 Composite (even d.v. by 2)

Solve. $5413 - 1862 = 3551$

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  5413
- 1862
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  3551
  
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$8,000 \times 60 = 480,000$

3 zeros + 1 zero = 4 zeros

$24,000 = \frac{30}{3} \times \frac{800}{2}$

1 needed 2