

1. Use digits to write the number thirty one billion, seven hundred six million, six hundred twenty.  
**31 706 000 620**

2. The following number is written in expanded form. Write it in standard form. **32 077 083**

$$3 \cdot 10,000,000 + 2 \cdot 1,000,000 + 7 \cdot 10,000 + 7 \cdot 1,000 + 8 \cdot 10 + 3 \cdot 1$$

3. Round 1286 963 to the nearest hundred. **1287 000**

4. Round 1286 963 to the nearest hundred thousand. **1300 000**

5. The sides of a rectangle are 10 in and 13 in long.

(a) Find the perimeter of the rectangle.  **$P = 46$  in**

(b) Find the perimeter and area of the rectangle.  **$A = 130$  in<sup>2</sup>**

6. Consider the following numbers: 628, 57 614, 123 456, 888, 24 000, and 625.

(a) Use the rule of divisibility by 2 to find all numbers from the list that are divisible by 2.  
**628, 57 614, 123 456, 888, 24 000**

(b) Use the rule of divisibility by 3 to find all numbers from the list that are divisible by 3.  
**123 456, 888, 24 000**

(c) Use the rule of divisibility by 5 to find all numbers from the list that are divisible by 5.  
**24 000, 625**

7. Find the sum of the five smallest prime numbers.  **$2 + 3 + 5 + 7 + 11 = 28$**

8. List all the factors of 36. **1, 2, 3, 4, 6, 9, 12, 18, 36**

9. The following numbers are all primes except for one. Which number listed is NOT a prime?  
 **$417 = 3 \cdot 139$**

$$2, 71, 101, 417, 2003$$

10. Find the prime factorization for 1800.  **$1800 = 2^3 \cdot 3^2 \cdot 5^2$**

11. Use the prime factorization method to find the least common multiple of 80 and 120. **240**

12. Perform the following divisions. Express your answer by giving the quotient and the remainder. For example,  $17 \div 5 = 3 \text{ R } 2$

(a)  $312312 \div 23 =$  **13578 R 18**

(b)  $132000 \div 26 =$  **5076 R 24**

13. Perform the following operations. Show all steps.

(a)  $5^2 + 3 \cdot 2^2 \div 3 - 3^2 =$  **20**

(b)  $5 \cdot (50 - 3 \cdot (4 \cdot (2 \cdot 3 + 1) - 12) + 3) =$  **25**

(c)  $75 \div (2^4 - 1^4) \cdot 4^2 + 3^1 \cdot 2^3 =$  **104**

$$(d) \frac{2 \cdot 5^2 - 3 \cdot (2^3 - 2)}{24 \div 6 + 6 - 3 \cdot (5 - 3)} = 8$$

$$(e) 5 \cdot 2^3 - 2 \cdot 4^2 + 25 - 7 \cdot 3 = 12$$

$$(f) \frac{(3^2 - 12 \div 4)^2 + 5^2 - 1}{2^5 - 2 \cdot (2^4 - 3 \cdot 5)} = 2$$

14. A, B, and C worked together for a week. Together they earned \$1500. They split the earnings to ten equal shares. A took four shares, B and C took three shares each. How much money did they each take? **A took \$600, B and C took \$450**