

Algebra 12-1 Factoring Integers Into Primes

Determine if the given number is prime or composite.

1. 117 _____
2. 221 _____
3. 151 _____
4. 231 _____
5. 331 _____
6. 71 _____

Give the prime factorization of the number in standard form.

7. 432 = _____
8. 300 = _____
9. 21,600 = _____
10. 756 = _____

Find the value of x .

10. $2^6 = 4^x$ $x =$ _____
11. $2^{12} = 8^x$ $x =$ _____
12. $2^{20} = 16^x$ $x =$ _____
13. $4^{10} = 2^x$ $x =$ _____
14. $5^x = 125^3$ $x =$ _____

15. Is 2^{100} divisible by 4? Why or why not? _____
16. Is 2^{100} divisible by 8? Why or why not? _____
17. Is 2^{100} divisible by 16? Why or why not? _____