

Name: _____

Prime Factorization and Exponents

Use prime factorization to find the prime factors and exponent form of a number.

	Number	Prime Factors	Exponent Form
1)	125		
2)	80		
3)	150		
4)	140		
5)	288		
6)	625		
7)	252		
8)	90		
9)	256		
10)	240		

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Answer

	Number	Prime Factors	Exponent Form
1)	125	$5 \times 5 \times 5$	5^3
2)	80	$2 \times 2 \times 2 \times 2 \times 5$	$2^4 \times 5^1$
3)	150	$2 \times 3 \times 5 \times 5$	$2^1 \times 3^1 \times 5^2$
4)	140	$2 \times 2 \times 5 \times 7$	$2^2 \times 5^1 \times 7^1$
5)	288	$2 \times 2 \times 2 \times 2 \times 2 \times 3 \times 3$	$2^5 \times 3^2$
6)	625	$5 \times 5 \times 5 \times 5$	5^4
7)	252	$2 \times 2 \times 3 \times 3 \times 7$	$2^2 \times 3^2 \times 7^1$
8)	90	$2 \times 3 \times 3 \times 5$	$2^1 \times 3^2 \times 5^1$
9)	256	$2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2$	2^8
10)	240	$2 \times 2 \times 2 \times 2 \times 3 \times 5$	$2^4 \times 3^1 \times 5^1$