Name: _____

MATH MONKS

Prime Factorization With Exponents

Find the prime factors of the given numbers and then write in exponent form. One is done.

a) $48 = 2 \cdot 2 \cdot 2 \cdot 2 \cdot 3 = 2^4 \cdot 3^1$

b) $80 =$ _____

c) $76 =$ _____

d) $90 =$ _____

e) $20 =$ _____

f) $32 =$ _____

g) $54 =$ _____

h) $88 =$ _____

i) $44 =$ _____

j) $168 =$ _____

k) $81 =$ _____

l) $270 =$ _____

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MATH MONKS

Prime Factorization With Exponents

Answer

a) $48 = 2 \cdot 2 \cdot 2 \cdot 2 \cdot 3 = 2^4 \cdot 3^1$

b) $80 = 2 \cdot 2 \cdot 2 \cdot 2 \cdot 5 = 2^4 \cdot 5^1$

c) $76 = 2 \cdot 2 \cdot 19 = 2^2 \cdot 19^1$

d) $90 = 2 \cdot 3 \cdot 3 \cdot 5 = 2^1 \cdot 3^2 \cdot 5^1$

e) $20 = 2 \cdot 2 \cdot 5 = 2^2 \cdot 5^1$

f) $32 = 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 = 2^5$

g) $54 = 2 \cdot 3 \cdot 3 \cdot 3 = 2^1 \cdot 3^3$

h) $88 = 2 \cdot 2 \cdot 2 \cdot 11 = 2^3 \cdot 11^1$

i) $44 = 2 \cdot 2 \cdot 11 = 2^2 \cdot 11^1$

j) $168 = 2 \cdot 2 \cdot 2 \cdot 3 \cdot 7 = 2^3 \cdot 3^1 \cdot 7^1$

k) $81 = 3 \cdot 3 \cdot 3 \cdot 3 = 3^4$

l) $270 = 2 \cdot 3 \cdot 3 \cdot 3 \cdot 5 = 2^1 \cdot 3^3 \cdot 5^1$