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Math worksheet on *'Prime Factorization as Exponents - 3 Factors (Level 3)'*. Part of a broader unit on *'Factoring and Primes - Advanced'*

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1 Show the prime factorization of this number as exponents

102

a $2 \cdot 3^2 \cdot 17$

b $2 \cdot 3 \cdot 13 \cdot 17$

c $2 \cdot 3 \cdot 11 \cdot 17$

d $2 \cdot 3 \cdot 7 \cdot 17$

e $2^2 \cdot 3 \cdot 17$

f $2 \cdot 3 \cdot 17$

2 Show the prime factorization of this number as exponents

125

a $2 \cdot 5^3$

b 5^3

c 5^4

d $3 \cdot 5^3$

e $5^3 \cdot 11$

f $5^3 \cdot 13$

3 Show the prime factorization of this number as exponents

63

a $3^2 \cdot 7^2$

b $3^2 \cdot 5 \cdot 7$

c $3^3 \cdot 7$

d $3^2 \cdot 7 \cdot 11$

e $3^2 \cdot 7 \cdot 13$

f $3^2 \cdot 7$

4 Show the prime factorization of this number as exponents

68

a $2^2 \cdot 7 \cdot 17$

b $2^2 \cdot 5 \cdot 17$

c $2^3 \cdot 17$

d $2^2 \cdot 17$

e $2^2 \cdot 13 \cdot 17$

f $2^2 \cdot 11 \cdot 17$

5 Show the prime factorization of this number as exponents

117

a $3^2 \cdot 13$

b $3^2 \cdot 11 \cdot 13$

c $3^3 \cdot 13$

d $2 \cdot 3^2 \cdot 13$

e $3^2 \cdot 13^2$

f $3^2 \cdot 5 \cdot 13$

6 Show the prime factorization of this number as exponents

70

a $2 \cdot 3 \cdot 5 \cdot 7$

b $2 \cdot 5 \cdot 7$

c $2 \cdot 5 \cdot 7^2$

d $2 \cdot 5 \cdot 7 \cdot 11$

e $2 \cdot 5^2 \cdot 7$

f $2 \cdot 5 \cdot 7 \cdot 13$

7 Show the prime factorization of this number as exponents

52

a $2^2 \cdot 3 \cdot 13$

b $2^2 \cdot 13$

c $2^2 \cdot 5 \cdot 13$

d $2^2 \cdot 13^2$

e $2^2 \cdot 11 \cdot 13$

f $2^3 \cdot 13$