WILF : to express a number as a product of its prime factors

Product of Prime Factors : Level 6

1. Express these numbers as a product of their prime factors in index form.

a) 70 b) 90 c) 256 d) 126 e) 164
f) 225 g) 564 h) 1092 i) 2100 j) 32760

2. These numbers have been worked out as a product of their prime factors. Work out what the numbers were.

a) $2^2 \times 3^2$ b) $2 \times 3 \times 5^2$ c) $3^2 \times 7$ d) $2^3 \times 3 \times 5^2$ e) $3^3 \times 5^2$
f) $2 \times 3 \times 13$ g) $2 \times 2 \times 2 \times 2 \times 2$ h) $2^4 \times 3^2$

3. Draw factor trees for these numbers. Use these to find the highest common factor of both numbers

a) 16 & 24 b) 24 & 60 c) 32 & 48 d) 60 & 90 e) 143 & 288