



12. What is the smallest square that has 2016 as a factor?

A 42^2

B 84^2

C 168^2

D 336^2

E 2016^2

1682



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12. C The prime factorisation of 2016 is $2^5 \times 3^2 \times 7$. To create the smallest square which is a multiple of 2016, the powers of each prime must be as small as possible and even, whilst also being at least as big as those in the prime factorisation of 2016. This gives $2^6 \times 3^2 \times 7^2$ which is $(2^3 \times 3 \times 7)^2$ or 168^2 .