



12. The *primorial* of a number is the product of all of the prime numbers less than or equal to that number. For example, the primorial of 6 is  $2 \times 3 \times 5 = 30$ . How many different whole numbers have a primorial of 210?

A 1

B 2

C 3

D 4

E 5

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12. **D** The primorial of 7 is  $2 \times 3 \times 5 \times 7 = 210$ . As 8, 9 and 10 are not prime numbers, they also have a primorial of 210. The primorial of 11 is  $2 \times 3 \times 5 \times 7 \times 11 = 2310$ . Hence there are exactly four different whole numbers which have a primorial of 210.