

Simple Concept Tough Problem-4

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"The only way to learn mathematics is to do mathematics !" - Paul Halmos.

Yes, definitely ! The more we do mathematics, the more we learn mathematics. So, here we are with the fourth problem in SCTP series. This problem appeared in PRMO 2017 paper.

If an integer x , a natural number n and a prime number p satisfy $7x^2 - 44x + 12 = p^n$, then find the largest possible value of p .

We can solve this problem using the concepts of middle term factorization of quadratic polynomial, prime factorization of numbers and a commonly used property of divisibility. Let's have a look at the following video :

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