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3. The distance that Jenny throws a javelin is normally distributed with mean 42 m and standard deviation 5 m.

(a) Find the probability that the distance Jenny throws the javelin is less than 40 m.

(3)

Jenny enters a javelin competition. To qualify for the final she has 3 attempts to throw the javelin a distance of more than 40 m. Once she has qualified she does not use any of her remaining attempts.

Given that Jenny qualified for the final and that throws of the javelin are independent,

(b) find the probability that she qualified for the final on her third throw with a distance greater than 45 m.

(5)

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