1. A factory has two machines that produce bolts. Machine I produces 60% of the bolts, and 3% of its bolts are defective. Machine II produces 40% of the bolts and 2% of its bolts are defective.

A. Draw a probability tree for the given information.

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  I   
  |   |
  |   |
  |   |
II
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B. If it is given that a bolt came from Machine I, what is the probability that it is defective? $P(D|I)$

C. What is the probability that a bolt selected at random came from Machine II and is defective? $P(II \cap D)$

D. What is the probability that a random bolt is defective? $P(D)$

E. Given that a bolt is defective, what is the probability that it came from Machine II? $P(II|D)$