

18. Two instruments are used to measure the height,  $h$ , of a tower. The error made by the less accurate instrument is normally distributed with mean 0 and standard deviation  $0.0056h$ . The error made by the more accurate instrument is normally distributed with mean 0 and standard deviation  $0.0044h$ .

Assuming the two measurements are independent random variables, what is the probability that their average value is within  $0.005h$  of the height of the tower?

- (A) 0.38  
(B) 0.47  
(C) 0.68  
(D) 0.84  
(E) 0.90