

# Calculations in the Bivariate Normal Distribution

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# Problem 1

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- # Suppose that, for adult males, heights and weights have a distribution which is approximately bivariate normal. Heights have a mean of 70 and a standard deviation of 2.5. Weights have a mean of 150 and a standard deviation of 25. The correlation between height and weight is .60.
  - # What percentage of men weigh more than 200?
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# Answer to problem 1

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# 2.28%

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## Problem 2

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# What percentage of men are less than 65 inches tall?

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# Answer to Problem 2

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# 2.28%

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## Problem 3

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- # What percentage of men who are exactly 75 inches tall weigh less than 170 pounds?

# Answer to Problem 3

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# 30.85%

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# Problem 4

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# What percentage of men who weigh 210 pounds are less than 70 inches tall?

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# Answer to Problem 4

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# 3.59%

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# Problem 5

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- # Suppose you are 78 inches tall (and male). If you weigh 230 pounds, what is the percentile rank of your weight among people the same height as you?



# Answer to Problem 5

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# 94.52

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