

## Widmark Formula: Steps for Calculating BAC

**1) Find Your Formula.** The generally accepted formula for calculating BAC is Widmark's formula,:

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$$BAC = (Standard\ Drinks * 0.06 * 100 * 1.055 / Weight * Gender\ Constant) - (0.015 * Hours)$$

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**2) Calculate Alcohol Consumed.** One 12oz beer, 5oz glass of wine or 1.5oz shot of liquor each equal one standard drink. Take the number of standard drinks consumed and multiply by 0.06 since one standard drink is approximately 6% pure ethanol.

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**3) Compensate for Specific Gravity of Blood.** Take the number you got in step 2 and multiply it by 100 and then by 1.055 to account for the specific gravity of blood.

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**4) Multiply Body Weight by the Gender Constant.** Multiply your body weight in pounds by the gender constant. The gender constant is on average 0.68 for men and 0.55 for women.

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**5) Divide Step 3 by Step 4.** Divide your the number you found in step 3 by the number you found in step 4 to get a rough estimate of BAC.

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**6) Find How Much Alcohol Has Been Metabolized.** Multiply the number of hours since your first drink times the alcohol elimination constant to find how much alcohol has been eliminated. The alcohol elimination constant has an average of 1.5% (or 0.015).

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**7) Subtract Metabolized Alcohol to Find Final Answer.** Subtract your number from step 6 from the number you found in step 5 to find your Blood Alcohol Content.

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**8) Finished.**