Name:

Date:

School:

Facilitator:

7.07 BAC (40 Points)

# Effects of alcohol on the body

**Answer the following questions using information given in 7.07 Alcohol.** (2 points each)

1. What does BAC stand for?
2. How is BAC measured by law enforcement officers?
3. Why does BAC vary among individuals who have consumed the same amount and type of alcoholic beverages?
4. Describe how you expect someone to act if their blood alcohol level is 0.05%.
5. What long-term effects can alcohol consumption have on a person’s body?
6. Why do you think the legal limit for driving under the influence is a BAC of 0.08%? Do you think this is an appropriate limit? Explain your reasoning including specific effects of alcohol at this or other BAC levels. (3 points)

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| *Write your response below using complete sentences.*  |
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# Calculating BAC

Use Widmark’s equation (given below) to solve the following problems. Be sure to show your work in the space provided.

**Males** BAC = $\frac{(A)(D)(5.14)}{(Wt)(0.73)}$

**Females** BAC = $\frac{(A)(D)(5.14)}{(Wt)(0.66)}$

Common drink sizes and concentrations

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| --- | --- | --- |
| Type | Serving Size | Average alcohol content |
| Beer | 12 oz | 6% |
| Wine | 5 oz | 12% |
| Hard Liquor (shots) | 1.25 oz | 40% |

7. What does “A” stand for in the equation?       (1 point)

8. What does “D” stand for in the equation?       (1 point)

9. What does “Wt” stand for in the equation?       (1 point)

10. How do the male and female BAC equation differ and why?       (3 points)

11. Calculate the BAC of a 130-lb man who has had 2 glasses of wine. (5 points)

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| *Show your work below.*  |
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12. What are typical effects of the BAC you calculated in #11?       (3 points)

13. Calculate the BAC of a 140-lb woman who has had 4 shots during the last hour. (5 points)

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| *Show your work below.*  |
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14. What are some typical effects of the BAC you calculated in #13?       (3 points)

15. How many beers would a 200 lb man need to consume to have the same BAC as the woman in #13? (5 points)

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| *Show your work below.*  |
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