Chemistry 115 Name

Dr. Cary Willard

Quiz 3a (20 points) September 12, 2012

All work must be shown to receive credit. Give answers to the correct number of significant figures.

|  |  |
| --- | --- |
| Fat | 9.0 Cal/g |
| Protein | 4.0 Cal/g |
| Carbohydrate | 4.0 Cal/g |

1. (6 points)You have just consumed a serving of trail mix with 8.3 g of fat, 12.7 g of carbohydrate, and 3.9 g of protein. Calculate the number of Calories from fat, carbohydrate, and protein, as well as the total Calories you have consumed.

Calories from fat

Calories from carbohydrate

Calories from protein

Total Calories

1. (4 points) If you wish to exercise just long enough to burn off the calories you ate in question 1, how many hours would you need to swim if swimming uses 500. kcal/hr?
2. (6 points) Determine the number of protons, neutrons, and electrons in a neutral atom of nickel 63?

Neutrons

Protons

Electrons

1. (4 points) Describe the experiment performed by Goldstein and Crooks which first indicated the existence of electrons. What did they do and how did the experiment demonstrate the existence and nature of electrons?

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Quiz 3b (20 points) September 12, 2012

All work must be shown to receive credit. Give answers to the correct number of significant figures.

|  |  |
| --- | --- |
| Fat | 9.0 Cal/g |
| Protein | 4.0 Cal/g |
| Carbohydrate | 4.0 Cal/g |

1. (6 points)You have just consumed a serving of BBQ chips with 9.2 g of fat, 15 g of carbohydrate, and 2.2 g of protein. Calculate the number of Calories from fat, carbohydrate, and protein, as well as the total Calories you have consumed.

Calories from fat

Calories from carbohydrate

Calories from protein

Total Calories

1. (4 points) If you wish to exercise just long enough to burn off the calories you ate in question 1, how many hours would you need to swim if swimming uses 500 kcal/hr?
2. (6 points) Determine the number of protons, neutrons, and electrons in a neutral atom of chromium-55?

Neutrons

Protons

Electrons

1. (4 points) Describe the experiment performed by Goldstein and Crooks which first indicated the existence of electrons. What did they do and how did the experiment demonstrate the existence and nature of electrons?

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Quiz 3c (20 points) September 12, 2012

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|  |  |
| --- | --- |
| Fat | 9.0 Cal/g |
| Protein | 4.0 Cal/g |
| Carbohydrate | 4.0 Cal/g |

1. (6 points)You have just consumed a serving of tortilla chips with 7.4g of fat, 17.8 g of carbohydrate, and 2.0 g of protein. Calculate the number of Calories from fat, carbohydrate, and protein, as well as the total Calories you have consumed.

Calories from fat

Calories from carbohydrate

Calories from protein

Total Calories

1. (4 points) If you wish to exercise just long enough to burn off the calories you ate in question 1, how many hours would you need to swim if swimming uses 500 kcal/hr?
2. (6 points) Determine the number of protons, neutrons, and electrons in a neutral atom of manganese 57?

Neutrons

Protons

Electrons

1. (4 points) Describe the experiment performed by Goldstein and Crooks which first indicated the existence of electrons. What did they do and how did the experiment demonstrate the existence and nature of electrons?

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Quiz 3d (20 points) September 12, 2012

All work must be shown to receive credit. Give answers to the correct number of significant figures.

|  |  |
| --- | --- |
| Fat | 9.0 Cal/g |
| Protein | 4.0 Cal/g |
| Carbohydrate | 4.0 Cal/g |

1. (6 points)You have just consumed a serving of sunflower seeds with 14.1 g of fat, 6.8 g of carbohydrate, and 5.5 g of protein. Calculate the number of Calories from fat, carbohydrate, and protein, as well as the total Calories you have consumed.

Calories from fat

Calories from carbohydrate

Calories from protein

Total Calories

1. (4 points) If you wish to exercise just long enough to burn off the calories you ate in question 1, how many hours would you need to swim if swimming uses 500 kcal/hr?
2. (6 points) Determine the number of protons, neutrons, and electrons in a neutral atom of cobalt-62?

Neutrons

Protons

Electrons

1. (4 points) Describe the experiment performed by Goldstein and Crooks which first indicated the existence of electrons. What did they do and how did the experiment demonstrate the existence and nature of electrons?