Practice Problems

Please solve these in your notes the way you see your teacher doing them! They are not optional, they are part of the notes!

Remember that sig figs can be a total pain for these problems...a little bit of rounding can make a problem impossible to solve. Some problems will require you to use more decimal places than others. If in doubt, you can always ask how many to use.

Example #1

A sample of a compound that is known to contain only carbon, hydrogen, and oxygen is combusted, and the CO_2 and H₂O produced are trapped and weighed. The original sample weighed 8.38 g and yielded 16.0 g CO_2 and 9.8 g H₂O. What is the empirical formula?

Example #2

Lysine is an amino acid which has the following elemental composition: C, H, O, N. In one experiment, 2.175 g of lysine was combusted to produce 3.94 g of CO₂ and 1.89 g H₂O. In a separate experiment, 1.873 g of lysine was burned to produce 0.436 g of NH₂. The molar mass of lysine is approximately 150 g/mol. Determine the empirical and molecular formula of lysine.

Practice Problems

Please solve these in your notes the way you see your teacher doing them! They are not optional, they are part of the notes!

Remember that sig figs can be a total pain for these problems...a little bit of rounding can make a problem impossible to solve. Some problems will require you to use more decimal places than others. If in doubt, you can always ask how many to use.

Example #1

A sample of a compound that is known to contain only carbon, hydrogen, and oxygen is combusted, and the CO_2 and H₂O produced are trapped and weighed. The original sample weighed 8.38 g and yielded 16.0 g CO_2 and 9.8 g H₂O. What is the empirical formula?

Example #2

Lysine is an amino acid which has the following elemental composition: C, H, O, N. In one experiment, 2.175 g of lysine was combusted to produce 3.94 g of CO₂ and 1.89 g H₂O. In a separate experiment, 1.873 g of lysine was burned to produce 0.436 g of NH₂. The molar mass of lysine is approximately 150 g/mol. Determine the empirical and molecular formula of lysine.

Practice Problems

Please solve these in your notes the way you see your teacher doing them! They are not optional, they are part of the notes!

Remember that sig figs can be a total pain for these problems...a little bit of rounding can make a problem impossible to solve. Some problems will require you to use more decimal places than others. If in doubt, you can always ask how many to use.

Example #1

A sample of a compound that is known to contain only carbon, hydrogen, and oxygen is combusted, and the CO_2 and H₂O produced are trapped and weighed. The original sample weighed 8.38 g and yielded 16.0 g CO_2 and 9.8 g H₂O. What is the empirical formula?

Example #2

Lysine is an amino acid which has the following elemental composition: C, H, O, N. In one experiment, 2.175 g of lysine was combusted to produce 3.94 g of CO₂ and 1.89 g H₂O. In a separate experiment, 1.873 g of lysine was burned to produce 0.436 g of NH₂. The molar mass of lysine is approximately 150 g/mol. Determine the empirical and molecular formula of lysine.

Practice Problems

Please solve these in your notes the way you see your teacher doing them! They are not optional, they are part of the notes!

Remember that sig figs can be a total pain for these problems...a little bit of rounding can make a problem impossible to solve. Some problems will require you to use more decimal places than others. If in doubt, you can always ask how many to use.

Example #1

A sample of a compound that is known to contain only carbon, hydrogen, and oxygen is combusted, and the CO_2 and H₂O produced are trapped and weighed. The original sample weighed 8.38 g and yielded 16.0 g CO_2 and 9.8 g H₂O. What is the empirical formula?

Example #2

Lysine is an amino acid which has the following elemental composition: C, H, O, N. In one experiment, 2.175 g of lysine was combusted to produce 3.94 g of CO₂ and 1.89 g H₂O. In a separate experiment, 1.873 g of lysine was burned to produce 0.436 g of NH₂. The molar mass of lysine is approximately 150 g/mol. Determine the empirical and molecular formula of lysine.

Practice Problems

Please solve these in your notes the way you see your teacher doing them! They are not optional, they are part of the notes!

Remember that sig figs can be a total pain for these problems...a little bit of rounding can make a problem impossible to solve. Some problems will require you to use more decimal places than others. If in doubt, you can always ask how many to use.

Example #1

A sample of a compound that is known to contain only carbon, hydrogen, and oxygen is combusted, and the CO_2 and H₂O produced are trapped and weighed. The original sample weighed 8.38 g and yielded 16.0 g CO_2 and 9.8 g H₂O. What is the empirical formula?

Example #2

Lysine is an amino acid which has the following elemental composition: C, H, O, N. In one experiment, 2.175 g of lysine was combusted to produce 3.94 g of CO₂ and 1.89 g H₂O. In a separate experiment, 1.873 g of lysine was burned to produce 0.436 g of NH₂. The molar mass of lysine is approximately 150 g/mol. Determine the empirical and molecular formula of lysine.

Practice Problems

Please solve these in your notes the way you see your teacher doing them! They are not optional, they are part of the notes!

Remember that sig figs can be a total pain for these problems...a little bit of rounding can make a problem impossible to solve. Some problems will require you to use more decimal places than others. If in doubt, you can always ask how many to use.

Example #1

A sample of a compound that is known to contain only carbon, hydrogen, and oxygen is combusted, and the CO_2 and H₂O produced are trapped and weighed. The original sample weighed 8.38 g and yielded 16.0 g CO_2 and 9.8 g H₂O. What is the empirical formula?

Example #2

Lysine is an amino acid which has the following elemental composition: C, H, O, N. In one experiment, 2.175 g of lysine was combusted to produce 3.94 g of CO₂ and 1.89 g H₂O. In a separate experiment, 1.873 g of lysine was burned to produce 0.436 g of NH₂. The molar mass of lysine is approximately 150 g/mol. Determine the empirical and molecular formula of lysine.

Practice Problems

Please solve these in your notes the way you see your teacher doing them! They are not optional, they are part of the notes!

Remember that sig figs can be a total pain for these problems...a little bit of rounding can make a problem impossible to solve. Some problems will require you to use more decimal places than others. If in doubt, you can always ask how many to use.

Example #1

A sample of a compound that is known to contain only carbon, hydrogen, and oxygen is combusted, and the CO_2 and H₂O produced are trapped and weighed. The original sample weighed 8.38 g and yielded 16.0 g CO_2 and 9.8 g H₂O. What is the empirical formula?

Example #2

Lysine is an amino acid which has the following elemental composition: C, H, O, N. In one experiment, 2.175 g of lysine was combusted to produce 3.94 g of CO₂ and 1.89 g H₂O. In a separate experiment, 1.873 g of lysine was burned to produce 0.436 g of NH₂. The molar mass of lysine is approximately 150 g/mol. Determine the empirical and molecular formula of lysine.

Practice Problems

Please solve these in your notes the way you see your teacher doing them! They are not optional, they are part of the notes!

Remember that sig figs can be a total pain for these problems...a little bit of rounding can make a problem impossible to solve. Some problems will require you to use more decimal places than others. If in doubt, you can always ask how many to use.

Example #1

A sample of a compound that is known to contain only carbon, hydrogen, and oxygen is combusted, and the CO_2 and H₂O produced are trapped and weighed. The original sample weighed 8.38 g and yielded 16.0 g CO_2 and 9.8 g H₂O. What is the empirical formula?

Example #2

Lysine is an amino acid which has the following elemental composition: C, H, O, N. In one experiment, 2.175 g of lysine was combusted to produce 3.94g of CO₂ and 1.89 g H₂O. In a separate experiment, 1.873 g of lysine was burned to produce 0.436 g of NH₂. The molar mass of lysine is approximately 150 g/mol. Determine the empirical and molecular formula of lysine.