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Identifying composition of transformations worksheet

SPOT THE TRANSFORMATION SHEET 1

Circle the correct word which describes how the 1st shape has been transformed to the 2nd shape in just one transformation.

There is more than one correct answer for some of the transformations.

	enlarged reduced flipped rotated



Unit: Transformational Geometry

Assessment Review

G.CO.2 Learning Target: *I can describe a transformation using coordinate notation that maps one point onto a unique image point. I can compare transformations that preserve distance and angle to those that do not.*

- Translate the quadrilateral $W(-2, 2)$, $X(-3, 3)$, $Y(-6, 5)$, $Z(-6, 3)$ using the transformation $(x, y) \rightarrow (x - 2, y + 3)$.
 - $W^*(-4, 5)$, $X^*(-5, 6)$, $Y^*(-8, 8)$, $Z^*(-8, 6)$
 - $W^*(0, 5)$, $X^*(-1, 6)$, $Y^*(-4, 8)$, $Z^*(-4, 6)$
 - $W^*(0, -1)$, $X^*(-1, 0)$, $Y^*(-4, 2)$, $Z^*(-4, 0)$
 - $W^*(4, 6)$, $X^*(6, 9)$, $Y^*(12, 15)$, $Z^*(12, 9)$

- After a translation, the image $P(-3, 5)$ is $P^*(-4, 3)$. Identify the image of the point $Q(1, -6)$ after this same translation. Then, describe the rule of the rigid transformation in coordinate notation and in words.

Point Q^* : _____

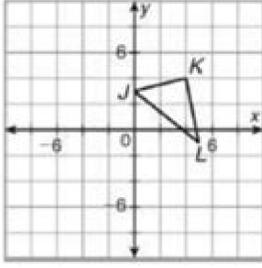
Coordinate notation: _____

Words: _____

Name _____

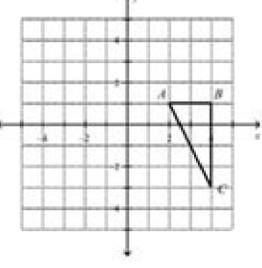
Period _____ Date _____

- $\triangle JKL$ is rotated 90° **clockwise** about the origin and then translated using $(x, y) \rightarrow (x - 8, x + 5)$. What are the coordinates of the final image of point L under this composition of transformations?



Answer: _____

- $\triangle ABC$ is translated using $(x, y) \rightarrow (x + 1, y - 3)$ after it is reflected across the y -axis. What are the coordinates of the final image of point C under this composition of transformations?



Answer: _____

Name: _____ Score: _____

Teacher: _____ Date: _____

Find and plot the midpoint of the line segment.

Midpoint of a line segment	Midpoint of a line segment	Midpoint of a line segment
$(-2, 1)$ and $(2, 1)$	$(-1, 2)$ and $(1, 2)$	$(-1, 1)$ and $(1, 1)$
$(-1, 2)$ and $(1, 2)$	$(-1, 1)$ and $(1, 1)$	$(-1, 2)$ and $(1, 2)$
$(-1, 1)$ and $(1, 1)$	$(-1, 2)$ and $(1, 2)$	$(-1, 1)$ and $(1, 1)$
$(-1, 2)$ and $(1, 2)$	$(-1, 1)$ and $(1, 1)$	$(-1, 2)$ and $(1, 2)$
$(-1, 1)$ and $(1, 1)$	$(-1, 2)$ and $(1, 2)$	$(-1, 1)$ and $(1, 1)$

Identifying transformations worksheet pdf. Identifying transformations worksheet answers. Identifying transformations worksheet.

Law of conservation of mass continues to be conserved in isolated systems, even in modern physics. Substances that have the ability to oxidize other substances are said to be oxidative and are known as oxidizing agents, oxidants or oxidizers. Alchemy is often seen as linked to the quest to turn lead or other base metals into gold, though alchemists were also interested in many of the questions of modern chemistry.[8] The modern word alchemy in turn is derived from the Arabic word al-kīmīā (الكيمياء). New York: Pearson. The chemical bond can be a covalent bond, an ionic bond, a hydrogen bond or just because of Van der Waals force. Under the influence of the new empirical methods propounded by Sir Francis Bacon and others, a group of chemists at Oxford, Robert Boyle, Robert Hooke and John Mayow began to reshape the old alchemical traditions into a scientific discipline. ^ Robert Briffault (1938). ^ Chemistry 412 course notes. The nucleus is dense; the mass of a nucleus is approximately 1,836 times that of an electron, yet the radius of an atom is about 10,000 times that of its nucleus.[17][18] The atom is also the smallest entity that can be envisaged to retain the chemical properties of the element, such as electronegativity, ionization potential, preferred oxidation state(s), coordination number, and preferred types of bonds to form (e.g., metallic, ionic, covalent). ^ "Definition of chemistry | Dictionary.com". Solutions of substances in reagent bottles, including ammonium hydroxide and nitric acid, illuminated in different colors A chemical reaction is a transformation of some substances into one or more different substances.[13] The basis of such a chemical transformation is the rearrangement of electrons in the chemical bonds between atoms. ISBN 0-13-010310-1. ASM International. ^ Herbst, Eric (12 May 2005). One mole is defined to contain exactly 6.02214076x10²³ particles (atoms, molecules, ions, or electrons), where the number of particles per mole is known as the Avogadro constant.[25] Molar concentration is the amount of a particular substance per volume of solution, and is commonly reported in mol/dm³. [26] Phase Diagram showing relationships among the phases and the terms used to describe phase changes. A reaction is said to be exothermic if the reaction releases heat to the surroundings, in the case of endothermic reactions, the reaction absorbs heat from the surroundings. Mechanical force induces chemical reaction, NewScientist.com news service, Reilly ^ Changing States of Matter – Chemforkids.com ^ Chemical Reaction Equation – IUPAC Goldbook ^ Gold Book Chemical Reaction IUPAC Goldbook ^ "The Lewis Acid-Base Concept", sfn error: no target: CITEREFBurrowsHolmanParsonsPilling2008 (help) ^ Atkins & de Paula 2009, p. 9. One measurement, based on the Arrhenius definition of acidity, is pH, which is a measurement of the hydronium ion concentration in a solution, as expressed on a negative logarithmic scale. Italy: Oxford University Press. Journal of Physical Chemistry A. doi:10.1021/jp050461c. However, the discrete and separate nature of the molecular concept usually requires that molecular ions be present only in well-separated form, such as a directed beam in a vacuum in a mass spectrometer. Chemical laws Main article: Chemical law Chemical reactions are governed by certain laws, which have become fundamental concepts in chemistry. At the turn of the twentieth century the theoretical underpinnings of chemistry were finally understood due to a series of remarkable discoveries that succeeded in probing and discovering the very nature of the internal structure of atoms. The Development of Modern Chemistry. W. p. 322. The Chemical Educator. Instead, these substances are discussed in terms of formula units or unit cells as the smallest repeating structure within the substance. Traite de la chimie. In the methane molecule (CH₄), the carbon atom shares a pair of valence electrons with each of the four hydrogen atoms. Please help improve this article by introducing citations to additional sources.Find sources: "Chemistry" – news · newspapers · books · scholar · JSTOR (September 2014) Chemistry is typically divided into several major sub-disciplines. However, heat energy is often transferred more easily from almost any substance to another because the phonons responsible for vibrational and rotational energy levels in a substance have much less energy than photons invoked for the electronic energy transfer. The development of the modern scientific method was slow and arduous, but an early scientific method for chemistry began emerging among early Muslim chemists, beginning with the 9th century Perso-Arab chemist Jābir ibn Ḥayyān, popularly known as "the father of chemistry". ^ Darmstadter, Ernst. ^ Robert Boyle, Founder of Modern Chemistry Harry Sootin (2011) ^ "History – Robert Boyle (1627–1691)". ISBN 978-0-486-42825-3. ^ Morris Kline (1985) Mathematics for the nonmathematician. ISBN 978-0-316-10930-7. ^ Chemistry3. ^ "International Year of Chemistry" – The History of Chemistry". ^ Davy, Humphry (1808). ^ W.G. Laidlaw; D.E. Ryan; Gary Horlick; H.C. Clark; Josef Takats; Martin Cowie; R.U. Lemieux (10 December 1986). The atoms/molecules in a higher energy state are said to be excited. ISBN 978-0-07-115221-1. The nucleus is made up of positively charged protons and uncharged neutrons (together called nucleons), while the electron cloud consists of negatively charged electrons which orbit the nucleus. (2008) [2001]. Part of a series onChemistryScience of matter Index Outline Glossary History (timeline) Key components Matter Phase Bond Chemical reaction Ion Acid-base reaction Redox Chemical equilibrium Chemical law Branches Analytical chemistry Redox chemistry Biochemistry Organic chemistry Inorganic chemistry Physical chemistry Research Chemist (list) List of chemistry awards List of journals List of unsolved problems Chemistry portal Categoryvte An oil painting of a chemist (Ana Kansky, painted by Henrika Santel in 1932) Chemistry is the scientific study of the properties and behavior of matter.[1] It is a natural science that covers the elements that make up matter to the compounds composed of atoms, molecules and ions: their composition, structure, properties, behavior and the changes they undergo during a reaction with other substances.[2][3][4][5] In the scope of its subject, chemistry occupies an intermediate position between physics and biology.[6] It is sometimes called the central science because it provides a foundation for understanding both basic and applied scientific disciplines at a fundamental level.[7] For example, chemistry explains aspects of plant chemistry (botany), the formation of igneous rocks (geology), how atmospheric ozone is formed and how environmental pollutants are degraded (ecology), the properties of the soil on the moon (cosmochemistry), how medications work (pharmacology), and how to collect DNA evidence at a crime scene (forensics). Wiley-VCH, 2001. Nuclear chemistry is the study of how subatomic particles come together and make nuclei. ^ Reilly, Michael. Claydon, Jonathan; Greeves, Nick; Warren, Stuart; Wothers, Peter (2001). Inorganic Chemistry (3rd ed.). Acclials.com. Early civilizations, such as the Egyptians[41] Babylonians and Indians[42] amassed practical knowledge concerning the arts of metallurgy, pottery and dyes, but didn't develop a systematic theory. Physical chemistry involves the use of infinitesimal calculus in deriving equations. Biochemistry is also associated with molecular biology and genetics. ISBN 978-0-618-22123-3. 161). F. The Arabic works attributed to him introduced a systematic classification of chemical substances, and provided instructions for deriving an inorganic compound (sal ammoniac or ammonium chloride) from organic substances (such as plants, blood, and hair) by chemical means.[52] Some Arabic Jabirian works (e.g., the "Book of Mercy", and the "Book of Seventy") were later translated into Latin under the Latinized name "Geber".[53] and in 13th-century Europe an anonymous writer, usually referred to as pseudo-Geber, started to produce alchemical and metallurgical writings under this name.[54] Later influential Muslim philosophers, such as Abū al-Rayhān al-Bīrūnī[55] and Avicenna[56] disputed the theories of alchemy, particularly the theory of the transmutation of metals. "Chemistry of Star-Forming Regions". ^ "History of Acidity". The molecules/atoms of substance in an excited energy state are often much more reactive; that is, more amenable to chemical reactions. Main article: Ion An ion is a charged species, an atom or a molecule, that has lost or gained one or more electrons. I. In 1897, J.J. Thomson of Cambridge University discovered the electron and soon after the French scientist Becquerel as well as the couple Pierre and Marie Curie investigated the phenomenon of radioactivity. While most familiar phases deal with three-dimensional systems, it is also possible to define analogs in two-dimensional systems, which has received attention for its relevance to systems in biology. In particular, the energetics and dynamics of such systems and processes are of interest to physical chemists. Such detectable chemical reactions normally involve sets of molecular entities as indicated by this definition, but it is often conceptually convenient to use the term also for changes involving single molecular entities (i.e. "microscopic chemical events"). p. 440. A 2-D structural formula of a benzene molecule (C6H6) The "inert" or noble gas elements (helium, neon, argon, krypton, xenon and radon) are composed of lone atoms as their smallest discrete unit, but the other isolated chemical elements consist of either molecules or networks of atoms bonded to each other in some way. Thus, oxidation is better defined as an increase in oxidation number, and reduction as a decrease in oxidation number. Not to be confused with Kemistry. These are determined by the rules of quantum mechanics, which require quantization of energy of a bound system. Chemical reactions can result in the formation or dissociation of molecules, that is, molecules breaking apart to form two or more molecules or rearrangement of atoms within or across molecules. pp. 1–2. Vol 1: Translations of the principal sources with philosophical commentary. Vol. 6 (11th ed.). ^ Strodsch, George K. They can be analyzed using the tools of chemical analysis, e.g. spectroscopy and chromatography. The development of the electrochemical theory of chemical combinations occurred in the early 19th century as the result of the work of two scientists in particular. Jöns Jacob Berzelius and Humphry Davy, made possible by the prior invention of the voltaic pile by Alessandro Volta. Scientists engaged in chemical research are known as chemists.[14] Most chemists specialize in one or more sub-disciplines. Lemay. Further reading Popular reading Atkins, P.W. Galileo's Finger (Oxford University Press) ISBN 0-19-860941-8 Atkins, P.W. Atkins' Molecules (Cambridge University Press) ISBN 0-521-82397-8 Kean, Sam. "Introduction: Matter, energy, and measurement". 338–340; Kraus, Paul 1942:1943. According to Brønsted-Lowry acid-base theory, acids are substances that donate a positive hydrogen ion to another substance in a chemical reaction; by extension, a base is the substance which receives that hydrogen ion. 1911. New York: Penguin Classics. There are two types of chemical bonds: 1. ^ Bryan H. 317-418, pp. Chemical reactions are invariably not possible unless the reactants surmount an energy barrier known as the activation energy. These other types of substances, such as ionic compounds and network solids, are

