

**add** [V-T-U13] To **add** numbers is to combine them to form another total number. **dodawać (działanie matematyczne)**

**adjust** [V-T-U9] To **adjust** is to alter or move something slightly, in order to improve it. **nastawić**

**alcohol** [N-UNCOUNT-U5] **Alcohol** is a chemical solution and is used as a cleaning agent. **alkohol**

**align** [V-T-U9] To **align** is to arrange things so that they make a straight line or are in the right position, in relation to other objects. **wyrównać**

**alternating current** [N-UNCOUNT-U3] **Alternating current** is a flow of electrical current that continually changes direction at a quick rate. **prąd zmienny**

**ampere** [N-COUNT-U2] An **ampere** is the base unit of electric current. It is equal to one coulomb per second. **amper**

**analog meter** [N-COUNT-U7] An **analog meter** is an old-fashioned device that shows measurements by means of a moving needle. It is useful for showing slow fluctuating voltages and small dips and spikes of voltage. **multimetr analogowy**

**analyze** [V-T-U9] To **analyze** is to study something carefully, in order to explain or understand it. **analizować**

**angular frequency** [N-UNCOUNT-U14] The **angular frequency** is a unit that represents the relationship between different wave forms. **pulsacja, częstość kątowna**

**assemble** [V-T-U9] To **assemble** is to put the different parts of something together. **składać (z części)**

**bare** [ADJ-U12] If a wire is **bare**, it is uncovered. **nieizolowany (np. przewód)**

**bench vise** [N-COUNT-U5] A **bench vise** is a clamp that holds wood or metal in place to be worked on with tools. **imadło stołowe**

**bend** [V-I-U10] To **bend** is to move forward and downward, so that you are not upright. **zginać**

**bond** [V-T-U6] To **bond** things together is to stick them together. **spoić**

**calibrate** [V-T-U9] To **calibrate** is to change or check an instrument or tool, in order to make it more accurate. **kalibrować, skalować**

**camcorder** [N-COUNT-U1] A **camcorder** is a device that combines a video camera, recorder, and player. **kamera wideo z magnetowidem**

**capacitance** [N-UNCOUNT-U3] **Capacitance** is the ability to store an amount of electricity in an electric field. **pojemność elektryczna**

**capacitance meter** [N-COUNT-U7] A **capacitance meter** is a device used to smooth power output. It is known for being unreliable. **miernik pojemności elektrycznej**

**carpet** [N-UNCOUNT-U8] **Carpet** is a thick, heavy floor covering made of fabric. **dywan**

**carry** [V-T-U10] To **carry** is to hold something with your hands or arms, and then take it somewhere. **nosić, nieść**

**cell phone** [N-COUNT-U1] A **cell phone** is a portable, wireless telephone. **telefon komórkowy**

**centimeter** [N-COUNT-U14] A **centimeter** is a measurement unit used to determine an object's length or width and is one hundredth of a meter. **centymetr (jednostka miary)**

**charge** [N-COUNT-U2] A **charge** is the physical property of an object that makes it undergo a negative or positive force when it is near another electrically charged object. **ładunek**

**circuit** [N-COUNT-U2] A **circuit** is a system of electrical conductors that electricity flows through. **obwód**

**circuit ground** [N-COUNT-U12] The ground or **circuit ground** is the place in the circuit where the current goes after it has been used. It is also called the earth. **uziemienie**

**clean** [V-T-U9] To **clean** something is to get the dirt off something. **czyścić**

**climb** [V-I-U10] To **climb** is to use your feet and hands in order to travel up, down, over or across something. **wspinać się, wchodzić na coś**

**clip lead** [N-COUNT-U5] A **clip lead** is a short wire that is used to create an electrical current connection. **przewód z zaciskiem**

**component** [N-COUNT-U6] A **component** is one part of a piece of equipment. Many components are used to build larger machines. **część, komponent, element**

**computer** [N-COUNT-U1] A **computer** is an electronic device that accepts, processes, and displays data. **komputer**

**conduct** [V-T-U2] For electricity to **conduct**, it passes through an object. **przewodzić**

**connection point** [N-COUNT-U12] A **connection point** is a place where two parts of a circuit meet. **połączenie (w obwodzie)**

**construction site** [N-COUNT-U11] A **construction site** is a location where building or remodeling is done. **plac budowy**

**consumer electronics** [N-PLURAL-U1] **Consumer electronics** are electronics used for everyday or casual entertainment purposes. **elektronika użytkowa**

**contact** [N-COUNT-U12] If you come into **contact** with something, you touch it. **styczość (w sensie fizycznym)**

**cooler spray** [N-UNCOUNT-U5] **Cooler spray** is a freeze spray used to expose faulty parts in hardware. **spray zamrażający**

**crouch** [V-I-U10] To **crouch** is to move your body closer to the ground by completely bending your knees. **kucać**

**current** [N-UNCOUNT/COUNT-U2] **Current** is the flow of electricity. **prąd**

**decibel** [N-COUNT-U14] A **decibel** represents an increase in either the voltage, current, or power in a speaker or amplifier and is equal to one tenth of a bel. **decybel**

**decimal** [N-COUNT-U13] A **decimal** is a number shown in units of ten. **ułamek dziesiętny**

**desoldering iron** [N-COUNT-U6] A **desoldering iron** is a tool used to remove solder. **rozlutownica, odlutownica**

**diagonal cutters** [N-COUNT-U4] **Diagonal cutters** are pliers with angled cutting jaws used to cut wires. **szcypce boczne do cięcia drutu**

**digital camera** [N-COUNT-U1] A **digital camera** records images in a digital form instead of using film. **aparat cyfrowy**

**direct current** [N-UNCOUNT-U3] **Direct current** is a flow of electrical current that moves in just one direction. **prąd stały**

**disassemble** [V-T-U9] To **disassemble** is to take something apart, so that it is in pieces. **rozłożyć na części**

**discharge** [V-T-U12] If you **discharge** something, you remove its electrical charge. **rozładować (ładunek elektryczny)**

**divide** [V-T-U13] To **divide** numbers is to decrease a number a certain amount of times. **dzielić (działanie matematyczne)**

**drive** [V-T or I-U10] To **drive** is to operate a vehicle so that it moves somewhere. **prowadzić pojazd**

**DVD player** [N-COUNT-U1] A **DVD player** is a device that plays DVDs, most commonly used with a television. **odtwarzacz DVD**

**e-book reader** [N-COUNT-U1] An **e-book reader** is an electronic, hand-held device that displays the contents of a book in digital format. **czytnik e-booków**

**electrical service** [N-UNCOUNT-U8] **Electrical service** refers to the function of having a supply of electric current. **dostęp do prądu, dostawa prądu**

**electrical tape** [N-UNCOUNT-U4] **Electrical tape** is tape made of plastic or vinyl used to insulate electrical wires **taśma izolacyjna**

**electricity** [N-UNCOUNT-U2] **Electricity** is a form of energy that occurs naturally or can be produced. It is expressed in terms of movement and interactions of electrons. **elektryczność**

**electron** [N-COUNT-U2] An **electron** is the particle in an atom that carries electric currents. **elektron**

**elevated** [ADJ-U11] If a job is at an **elevated** level, it is physically higher than ground level. **na wysokości (np. praca)**

**explain** [V-T-U9] To **explain** is to tell someone something in a way that is easy to follow. **wytłumaczyć, wyjaśnić**

**exposed** [ADJ-U12] If a wire is **exposed**, it can easily be seen or touched. **odłonięty, widoczny (np. drut)**

**factory** [N-COUNT-U11] A **factory** is an indoor location where goods are made and distributed. **fabryka**

**field** [N-UNCOUNT-U11] The **field** is an outdoor location or any location where work is done away from the main workplace. **miejsce pracy w terenie**

**flathead screwdriver** [N-COUNT-U4] A **flathead screwdriver** has a flat blade at the tip and is used with slotted screws. **śrubokręt płaski**

**flux** [N-UNCOUNT-U1] **Flux** is a soft metal. You can melt it and use it to join pieces of metal together. **topnik**

**formula** [N-COUNT-U13] A **formula** uses symbols to make a statement. **wzór (matematyczny, chemiczny)**

**fraction** [N-COUNT-U13] A **fraction** represents one whole number being divided by another. **ułamek**

**frequency counter** [N-COUNT-U7] A **frequency counter** is a device that counts a signal's frequency. It does this by opening a gate, and tracking the number of signal cycles that pass through before the gate closes again. **miernik częstotliwości**

**giga** [PREFIX-U15] The word **giga** attached to the beginning of a word stands for the number one billion. **giga- (przedrostek oznaczający miliard jednostek)**

**glue gun** [N-COUNT-U5] A **glue gun** melts plastic glue, to affix wires to component surfaces. **pistolet do kleju, pistolet klejowy**

**hammer** [N-COUNT-U4] A **hammer** is a tool with a heavy metal head that is used for pounding or striking. **młotek**

**heat-shrink tubing** [N-UNCOUNT-U5] **Heat-shrink tubing** is plastic tubing that shrinks in diameter when heated and is used to repair and insulate wires. **koszulka termokurczliwa**

**heatsink grease** [N-UNCOUNT-U5] **Heatsink grease** is a lubricant that prevents components from overheating. **pasta termoprzewodząca**

**hemostat** [N-COUNT-U4] A **hemostat** is a clamping tool used to clamp and hold wires. **kleszczyki hemostatyczne**

**hertz** [N-COUNT-U3] A **hertz** is a measurement of frequency. It measures the speed at which electrical current changes direction. **Hertz (Hz – jednostka częstotliwości)**

**hex wrench** [N-COUNT-U4] A **hex wrench** is an L-shaped tool used for loosening or tightening screws and bolts with a head shaped like a hexagon. **klucz imbusowy**

**home** [N-COUNT-U11] A **home** is an indoor location in which a person lives. **dom (miejsce zamieszkania)**

**impedance** [N-UNCOUNT-U3] **Impedance** is a measure of how hard it is for electricity to pass through a piece of electrical equipment. **impedancja, oporność**

**inch** [N-COUNT-U14] An **inch** is a unit of measurement that is used to determine an object's length or width and is one twelfth of a foot. **cal**

**inductance** [N-UNCOUNT-U3] **Inductance** is the ability to store electricity in a magnetic field. **indukcyjność**

**inductance meter** [N-COUNT-U7] An **inductance meter** is a device used to find out the inductance value of coils. **miernik indukcyjności**

**inspect** [V-T-U9] To **inspect** is to examine something carefully, with the goal of making sure that it is correct or good enough. **badać, sprawdzać, kontrolować**

**isolation transformer** [N-COUNT-U7] An **isolation transformer** is a transformer that moves electrical power to equipment, while keeping the power input and power output apart. This is a safety measure. **transformator separacyjny**

**jewelry** [N-UNCOUNT-U12] **Jewelry** is decorative things you wear on your hands, fingers, and neck. It is often made of gold or silver. **biżuteria**

**kilo** [PREFIX-U15] The word **kilo** attached to the beginning of another word stands for the number one thousand. **kilo- (przedrostek oznaczający tysiąc jednostek)**

**kneel** [V-I-U10] To **kneel** is to move into a position where your body is resting on your knees. **klęknąć**

**lift** [V-T-U9] To **lift** is to move something in an upwards direction, so that it is in a higher position. **podnieść**

**lighting** [N-UNCOUNT-U8] **Lighting** refers to the electrical equipment used to provide light. **oświetlenie**

**live** [ADJ-U12] If a circuit is **live**, electricity is traveling through it. **pod napięciem**

**location** [N-COUNT-U8] A **location** is a site or a place. **miejsce**

**logic analyzer** [N-COUNT-U7] A **logic analyzer** is a device that displays signals in a digital circuit. It can show the relationships between different variables. It is similar to an oscilloscope. **analizator logiczny**

**magnet** [N-COUNT-U5] A **magnet** is an object that is able to produce an invisible magnetic field which can interact with metals, such as copper, iron, or nickel. **magnes**

**magnifier** [N-COUNT-U4] A **magnifier** enlarges the appearance of an object to allow for detailed viewing. **lupa, szkło powiększające**

**mega** [PREFIX-U15] The word **mega** attached to the beginning of a word stands for the number one million. **mega- (przedrostek oznaczający milion jednostek)**

**melt** [V-I-U6] To **melt** something is to turn it from a solid into a liquid. **topić**

**micro** [PREFIX-U15] The word **micro** attached to the beginning of a word stands for one millionth of a number. **mikro- (przedrostek oznaczający jedną milionową część jednostki)**

**micron** [N-COUNT-U14] A **micron** is a measurement unit used to determine an object's length or width and is equal to one millionth of a meter. **mikron**

**milli** [PREFIX-U15] The word **milli** attached to the beginning of another word stands for one thousandth of a number. **mili- (przedrostek oznaczający jedną tysięczną część jednostki)**

**millibar** [N-UNCOUNT-U14] A **millibar** is a unit of measurement that measures atmospheric pressure and is equal to one thousandth of a bar. **milibar (jedna tysięczna część bara)**

**millimeter** [N-COUNT-U14] A **millimeter** is a measurement unit used to determine an object's length or width and is one thousandth of a meter. **milimetr (jedna tysięczna część metra)**

**modify** [V-T-U9] To **modify** something is to make minor changes to something, with the goal of improving it. **modyfikować, zmieniać, ulepszać**

**MP3 player** [N-COUNT-U1] An **MP3 player** is a digital music player that supports and plays MP3 files. **odtwarzacz MP3**

**multimeter** [N-COUNT-U7] A **multimeter** is a piece of equipment that can measure several different things. It can measure voltage, resistance, and current. **miernik uniwersalny, multimetr**

**multiply** [V-T-U13] To **multiply** a number is to increase a number a certain amount of times. **mnożyć (wykonywać działania matematyczne)**

**nano** [PREFIX-U15] The word **nano** attached to the beginning of another word stands for one billionth of a number. **nano-** (przedrostek oznaczający jedną miliardową część jednostki)

**naphtha** [N-UNCOUNT-U5] **Naphtha** is a petroleum product and is used to remove dirt from any surface. **nafta**

**needlenose pliers** [N-PLURAL-U4] **Needlenose pliers** are small pliers with thin, long jaws used for cutting and gripping in detailed work. **szczypce długie**

**negative** [ADJ-U3] If something is **negative**, it has the electrical charge of an electron. **o ładunku ujemnym**

**non-conductive** [ADJ-U12] If a material is **non-conductive**, electricity cannot pass through it. **nieprzewodzący (prądu)**

**office** [N-COUNT-U11] An **office** is an indoor location where people go to do work. **biuro**

**ohm** [N-COUNT-U2] An **ohm** is a unit that measures electrical resistance. **om (jednostka oporu elektrycznego)**

**oscilloscope** [N-COUNT-U7] An **oscilloscope** is a device that creates a graph showing voltage against time. **oscyloskop**

**phase angle** [N-UNCOUNT-U14] A **phase angle** is the difference of degrees between forms of a voltage wave and a current wave that have the same time. **kąt fazowy**

**Phillips screwdriver** [N-COUNT-U4] A **Phillips screwdriver** is used to drive in Phillips screws. **śrubokręt krzyżakowy**

**pico** [PREFIX-U15] The word **pico** attached to another word stands for one trillionth of a number. **piko-** (przedrostek oznaczający jedną bilionową część jednostki)

**polarity** [N-UNCOUNT-U3] **Polarity** is the condition of having either a negative or positive electrical charge. **biegunowość**

**pole** [N-COUNT-U11] A **pole** is an object that is shaped like a cylinder and has a length that is far greater than its width. **słup**

**positive** [ADJ-U3] If something is **positive**, it has the electrical charge of a proton. **o ładunku dodatnim**

**power** [N-COUNT-U13] The **power** of a number shows how many times the number is multiplied by itself. **wykładnik potęgi**

**power strip** [N-COUNT-U8] A **power strip** consists of several electrical sockets that use one plug to connect to an electricity source. **rozgałęźnik**

**prefix** [N-COUNT-U15] A **prefix** is a meaning that is added to the beginning of a word. **przedrostek**

**proportion** [N-COUNT-U13] A **proportion** shows that two ratios are equal to each other. **proporcja (równość)**

**pull** [V-I-U10] To **pull** is to cause someone or something to move towards you, by using your hands. **ciągnąć**

**push** [V-I-U10] To **push** is to cause someone or something to move away from you or from their current position, by using your hands. **pchać**

**ratio** [N-COUNT-U13] A **ratio** shows the relation between two or more values. **proporcja, stosunek (między dwoma liczbami)**

**reach** [V-I-U10] To **reach** is to cause part of your body to move in a direction towards something you want to touch or pick up. **sięgać (po coś)**

**reactance** [N-UNCOUNT-U3] **Reactance** is the opposition to a change in voltage or electrical current that is caused by capacitance or inductance. **reaktancja**

**recommend** [V-T-U9] To **recommend** is to advise or make suggestions, particularly when a person has special knowledge about something. **doradzać, rekomendować, polecać**

**rectification** [N-UNCOUNT-U3] **Rectification** is the process of AC switching to DC. **prostowanie (prądu)**

**remove** [V-T-U9] To **remove** is to take an object away from its current position or place. **usuwać**

**repair** [V-T-U9] To **repair** something is to fix something that is broken or that does not work correctly. **naprawiać**

**resistance** [N-UNCOUNT-U2] **Resistance** is how much an object opposes an electric current passing through it. **opór**

**retain** [V-T-U12] If you **retain** something, you hold or keep it for a long period of time. **trzymać (zatrzymywać)**

**root** [N-COUNT-U13] The **root** of a number is the original number that multiplies by itself to reach the other larger number. **pierwiastek (w matematyce)**

**shock** [N-COUNT-U12] A **shock** is a sudden pain caused by electricity traveling through the body. **porażenie prądem**

**shop** [N-COUNT-U11] A **shop** is an indoor location where electronics or machinery are maintained or fixed. **serwis, warsztat, punkt naprawczy**

**signal generator** [N-COUNT-U7] A **signal generator** is a device that tests whether electrical equipment is working, by sending a test signal into the equipment. It is mostly used to test analog equipment. **generator sygnału**

**sit** [V-I-U10] To **sit** is to have the lower part of your body on a seat, chair, or the ground, while the upper part of your body is upright. **siedzieć**

**solder** [N-UNCOUNT-U6] **Solder** is a soft metal. You can melt it and use it to join pieces of metal together. **lut, spoiwo lutownicze**

**soldering iron** [N-COUNT-U6] A **soldering iron** is a tool used to heat solder and join pieces of metal together. **lutownica**

**solder sucker** [N-COUNT-U6] A **solder sucker** is a tool which removes solder using a vacuum pump. **odsysacz do lutowia**

**solder wick** [N-UNCOUNT-U6] **Solder wick** is copper thread which removes solder. **miedziana nić służąca do usuwania lutów**

**speaker** [N-COUNT-U1] A **speaker** is a device used to emit sound from an electronic device that plays music. **głośnik**

**spectrum analyzer** [N-COUNT-U7] A **spectrum analyzer** is a kind of scope that shows voltage against frequency. **analizator widma**

**spot lighting** [N-UNCOUNT-U8] **Spot lighting** focuses a strong beam of light over a small, concentrated area. **światło punktowe**

**stand** [V-I-U10] To **stand** is to be in an upright position, supported by your feet. **stać**

**stereo** [N-COUNT-U1] A **stereo** is an electronic device used to play music. **wieża stereo**

**stereo microscope** [N-COUNT-U5] A **stereo microscope** is a device that magnifies images with two beams of light. **mikroskop stereoskopowy**

**studio** [N-COUNT-U11] A **studio** is an indoor location where television and radio programmes are made and broadcast or where music is recorded. **studio**

**sturdy** [ADJ-U8] If an object is **sturdy**, it is solid and firmly built. **solidny, wytrzymały**

**subtract** [V-T-U13] To **subtract** one number from another is to take it away from the other number. **odejmować (wykonywać działanie matematyczne)**

**super glue** [N-UNCOUNT-U5] **Super glue** is an adhesive that can rapidly bond to plastic, metal, rubber, or glass. **super klej**

**surface** [N-COUNT-U8] The **surface** of an object is the outer or upper boundary of it. **powierzchnia**

**swing arm** [N-COUNT-U8] A **swing arm** is a hinged rod on a lamp that allows movement. **regulowane ramię (np. lampy)**

**symbol** [N-COUNT-U15] A **symbol** is a sign that represents an object or means something. **symbol**

**tablet** [N-COUNT-U1] A **tablet** is a portable, hand-held computer. **tablet**

**take off** [PHRASAL V-U12] If you **take off** clothing or jewelry, you remove it from your body. **zdejmować (coś)**

**television** [N-COUNT-U1] A **television** is a device that receives electrical signals and uses them to display pictures and produce sound. **telewizor**

**terminal** [N-COUNT-U12] A **terminal** is the point where a conductor in an electrical device ends and connects to an external circuit. **końcówka, przyłącze**

**terra** [PREFIX-U15] The word **terra** attached to the beginning of a word stands for the number one trillion. **tera- (przedrostek oznaczający bilion jednostek)**

**time constant** [N-UNCOUNT-U14] The **time constant** is the reaction time for the output value to reach 63.7% of the highest or lowest output value when exposed to a different type of input. **stała czasowa**

**tip** [N-COUNT-U6] A **tip** is the end of something, for example, the part of a pen which touches the paper. **końcówka (np. długopisu)**

**torque wrench** [N-COUNT-U4] A **torque wrench** uses a gauge to tighten nuts and bolts with the desired amount of force. **klucz dynamometryczny**

**tower** [N-COUNT-U11] A **tower** is a structure that is located above ground level and is supported by tall beams. **wieża (budowla)**

**transformer** [N-COUNT-U3] A **transformer** is a device that alters the voltage of a flow of electricity. **transformator**

**transistor tester** [N-COUNT-U7] A **transistor tester** is a device that measures how well transistors work. Some transistor testers measure how a transistor reacts to a real signal. Others measure approximate gain, high-frequency cutoff point, and leakage. **tester tranzystorów**

**turn off** [PHRASAL V-U12] If you **turn off** electrical equipment, you remove it from the power source. **wyłączyć**

**twist** [V-I-U10] To **twist** is to turn something, such as your body, so that it is in a different position. **obrać**

**underground** [PREP-U11] If something is **underground**, it is located below ground level. **pod ziemią**

**vacuum pump** [N-COUNT-U6] A **vacuum pump** is a piece of equipment. You can use it to move gases and liquids. **pompa próżniowa**

**value** [N-UNCOUNT-U15] **Value** refers to an object's worth or importance. **wartość**

**volt** [N-COUNT-U2] A **volt** is a unit used to measure the electric force of an object. **wolt (jednostka napięcia elektrycznego)**

**walk** [V-I-U10] To **walk** is to move in a forward direction, by placing one foot in front of the other. **iść, chodzić**

**watt** [N-COUNT-U2] A **watt** is a unit that measures power. It is equivalent to one joule per second. **wat (jednostka mocy)**

**watt-hour** [N-COUNT-U14] A **watt-hour** is the amount of energy that a circuit uses in one hour. **watogodzina**

**wire stripper** [N-COUNT-U4] A **wire stripper** is used to cut and remove insulation from a wire. **stripper**

**workbench** [N-COUNT-U8] A **workbench** is a table or bench where manual work is done, usually by mechanics or carpenters. **stół roboczy/warsztatowy**