**Перелік питань**

з навчальної дисципліни Іноземна мова професійного спрямування

за спеціальністю: 151 «Автоматизація та комп’ютерно-інтегровані технології»

освітнього ступеню «бакалавр»

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| №  п/п | Текст завдання |
| 1. | In engineering, most design information is shown on \_\_\_\_\_. |
| 2. | GA (drawings) corresponds to \_\_\_\_\_. |
| 3. | A key factor on a drawing is the \_\_\_\_\_ - that is, the size of items on the drawing in relation to their real size. |
| 4. | For electrical circuits, and pipe and duct networks, it is helpful to show designs in \_\_\_\_\_. In this case, schematic drawings (often referred to as schematics) are used.  An everyday example is the map of a train network. |
| 5. | Modern CAD systems can perform various functions. One of them is to \_\_\_\_\_. |
| 6. | We don’t need dimensions and positions at this stage. We just need a \_\_\_\_\_. showing how many branches come off the main supply pipe. |
| 7. | The term “elevation” refers to the \_\_\_\_\_. |
| 8. | Schematic drawing is \_\_\_\_\_. |
| 9. | We had our first design meeting with the airport authority and the architect yesterday. As you know, the client just gave the architect a short list of essential requirements for the terminal, so the design brief was pretty open. As a result, the ideas he's come up with form quite an adventurous concept. However, things are still at an early stage - there are no scale drawings yet, just eight sketches showing roughly what he wants the building to look like. So it wasn't possible to assess the design in detail. The next step is for the architect to develop the sketches into preliminary drawings. These are due at the end of April.  Acoording to the text the task of the structural engineer is \_\_\_\_\_. |
| 10. | A simple, quickly-made drawing that does not have many details is called a \_\_\_\_\_. |
| 11. | After team members have received a drawing, they can comment on it, and may ask for the design to be changed. Following these comments, the drawing will be revised - that is, drawn again with the requested changes made to it. Every drawing is numbered, and each time a drawing is amended (revised), the letter next to the drawing number is changed. Therefore, drawing 110A, after a revision, becomes 11 OB. When revision B is issued, it becomes the current drawing, and A is superseded. With each new revision, written notes are added to the drawing.  These notes describe \_\_\_\_\_. |
| 12. | When engineers revise drawings during the early stages of the design process, they may have to go back to \_\_\_\_\_ (start again), and redesign concepts completely. For later revisions, the design should only need to be refined slightly. |
| 13. | After a preliminary drawing has been finally approved (accepted), a senior engineer can sign off (authorize) the drawing as a working drawing - \_\_\_\_\_. |
| 14. | What is the purpose of General arrangement (GA) drawings? |
| 15. | Modern drawings are not drawn by hand. They are produced using CAD (\_\_\_\_\_) systems. |
| 16. | Construction can’t start until the first (\_\_\_\_\_) drawings have been issued. |
| 17. | There seems to be a problem with dwg 1120, which you issued yesterday.  In this case dwg refers to the \_\_\_\_\_. |
| 18. | The drawing is marked as revision. It means that it \_\_\_\_\_. |
| 19. | According to this list, there are elevations of all four sides of the machine on drawing 28. It means that the drawing represents \_\_\_\_\_. |
| 20. | Key elements of the brief are:  • function - the product's intended use (what it is designed to do), including performance targets (strength, power, durability, etc.)  • comparative targets - how well the product should perform, compared with existing models.  Existing models can be described as \_\_\_\_\_. |
| 21. | 2 The only drawing we have is the general arrangement, which is 1:100. So it \_\_\_\_\_. |
| 22. | When engineers revise drawings during the early stages of the design process, they may have to go back to the drawing board, and redesign concepts completely. For later revisions, the design should only need to be refined slightly.  Go back to the drawing board means \_\_\_\_\_. |
| 23. | Design information is shown on drawings, and written in \_\_\_\_\_ - documents which describe the materials, sizes and technical requirements of components. |
| 24. | We had our first design meeting with the airport authority and the architect yesterday. As you know, the client just gave the architect a short list of essential requirements for the terminal, so the design brief was pretty open. |
| 25. | For electrical circuits, and pipe and duct networks, it is helpful to show designs in a simplified form. In this case \_\_\_\_\_ are used.  An everyday example is the map of a train network. |
| 26. | Section is the short form of cross-section, and is commonly used in \_\_\_\_. |
| 27. | Before the first version of a drawing is sent to members of the team, a decision is made about who needs a copy. Sometimes, a drawing will only be issued to certain specialists in the team. Sometimes, it will be circulated to all the team members. The first version means \_\_\_\_\_. |
| 28. | Technicians are discussing different views shown on drawings (looking at components from above, from the side, etc.), as they search for the information they require.  We need a view from above showing the general arrangement of all of the roof panels. |
| 29. | In non-technical, everyday English, engineering drawings are often called \_\_\_\_\_. |
| 30. | When a design team consists of engineers and consultants from different organizations, the design development process \_\_\_\_\_. |
| 31. | A key factor on a drawing is the scale - that is, the size of items on the drawing in relation to their real size. When all the items on a drawing are shown relative to their real size, the drawing is drawn to scale, and can be called a scale drawing. An example of a scale is 1:10 (one to ten). |
| 32. | Engineers are sometimes criticized because they overdesign things (add excessive factors of safety), which \_\_\_\_\_ costs. |
| 33. | Function is one of the key elements of the brief. It describes the product's intended use, including performance targets (strength, power, durability, etc.)  So, function points to \_\_\_\_\_. |
| 34. | Another key element of the brief is budget - the cost limits that must not be exceeded, in order to make the design \_\_\_\_\_. |
| 35. | Design information is shown on drawings, and written in specifications - documents which describe the materials, sizes and technical requirements of components. In order to specify this detailed information, an engineer must evaluate - that is, \_\_\_\_\_ - the loads (forces) that key components will have to carry. |
| 36. | To do this, the engineer needs to determine (identify) the different loads, then quantify them - that is, calculate them in number form. Usually, each load is quantified . \_\_\_\_\_. - in other words, the engineer will allow for the maximum load, such as an aircraft making a very hard landing, or a bridge being hit by extremely high winds. |
| 37. | However, according to \_\_\_\_\_, ‘Anything that can go wrong, will.’ This suggests that belt and braces - an expression often used in engineering, based on the safest method of holding up trousers - is a sensible approach. |
| 38. | Of course, money is limited. Cost limitations are always a constraint. But some finance is available. A budget has been allocated for the preliminary design phase — a total of $ 35,000. But we mustn't \_\_\_\_\_ that amount. |
| 39. | Obviously, if we have to spend €80 on components for each appliance, and the appliances are sold for €70, that's not a \_\_\_\_\_ design solution. |
| 40. | The function of this detector is to locate underground cables by giving audio feedback. Since it's designed to be used in noisy environments, the earphone is an important \_\_\_\_\_. |
| 41. | It is impossible to produce components with dimensions that are absolutely precise, with sizes exactly the same as those specified in a design. This is because all production processes are imprecise to a certain extent. Therefore, the sizes of several components produced from the same design will vary. Although the variation may only be a few hundredths of a millimetre, sizes will not be 100% accurate (exact) compared with the design.  Give synonyms to the underlined words. |
| 42. | The advantage of racing in a kart class with a standard engine spec seems obvious - everyone has the same power, so it's driving talent that makes the difference. But things aren't quite that simple. No two standard engines are identical. There will always be a slight \_\_\_\_\_ in the size of engine parts. |
| 43. | These engine parts are manufactured, not to perfectly precise dimensions, but to specified \_\_\_\_\_. |
| 44. | Although these differences may only be plus or minus a few hundredths of a millimeter, they will nevertheless result in \_\_\_\_\_.a slight performance gap between any two engines. |
| 45. | Calculating the capacity of an electricity grid might seem simple. Electricity grid is \_\_\_\_\_. |
| 46. | The amount that's being consumed at a particular moment is not constant. It is called \_\_\_\_\_. |
| 47. | The demand for power fluctuates significantly because .\_\_\_\_\_. |
| 48. | Power lines and transformers are relatively inefficient, wasting energy - mainly by giving off heat. As a result, there is a difference between input - the amount of energy put into the grid by power stations, and output - the amount used by consumers. On a typical grid, the difference between input and output is about 7% - there is a 7% energy \_\_\_\_\_. |
| 49. | People use more power at certain times of day, and less at other times, which means that demand for power \_\_\_\_\_. |
| 50. | The rate of power consumption is not constant. In other words, \_\_\_\_\_. |
| 51. | But if electricity is generated at the place where it's consumed, and not transmitted through long-distance power lines, \_\_\_\_\_. |
| 52. | Locally produced electricity is \_\_\_\_\_ than grid-supplied power, as there is a gain in efficiency of around 7%. |
| 53. | One way to produce power locally is with PVs. PVs stand for \_\_\_\_\_. |
| 54. | If consumption exceeds production - \_\_\_\_\_ - then power is taken from the grid. |
| 55. | Homes with low consumption may therefore become \_\_\_\_\_ of power, producing more electricity than they consume. |
| 56. | Fuel \_\_\_\_\_ for this engine is about 1.5 litres per hour. |
| 57. | However, many PV installations are still connected to the electricity grid. This means that when there is surplus power, it is fed into the grid.  Surplus power is \_\_\_\_\_. |
| 58. | Of course, sometimes the engine will consume a bit more, sometimes a bit less, depending on the workload. However, 1.5 is an \_\_\_\_\_ figure. |
| 59. | Let's say the duration of a work shift is 8 hours. The pump will have to be stopped occasionally, to clean the intake filter, so it won’t be 8 hours of \_\_\_\_\_. running. |
| 60. | Water consumption \_\_\_\_\_ between 1.0 and 1.7 litres per second. |
| 61. | A lot of heat \_\_\_\_\_ in this part of the process. And all of that output is recycled - it provides a supply of heat for the next stage of the process. |
| 62. | Sometimes, there’s \_\_\_\_\_ heat, and it can’t all be recycled. |
| 63. | At other times there isn’t quite enough recycled heat to keep up with peak \_\_\_\_\_ for heat energy further along the process. |
| 64. | Some material is lost in the washing process, but the mass of water absorbed is greater than the mass of material lost. So, there’s a net \_\_\_\_\_ in total mass. |
| 65. | The rate of power consumption is \_\_\_\_\_. |
| 66. | It is impossible to produce components with dimensions that are absolutely precise, \_\_\_\_\_. |
| 67. | Engineers often specify tolerances in designs. Tolerances mean \_\_\_\_\_. |
| 68. | When one component goes through another, such as a shaft or a bolt going through a hole, the two must fit together - \_\_\_\_\_. |
| 69. | A theodolite - \_\_\_\_\_ - can be used to square off gridlines accurately. |
| 70. | A lot of heat is generated in this part of the process. All of that output is recycled - it provides a supply of heat for the next stage of the process. |
| 71. | Has the drawing been revised, or is this the first \_\_\_\_\_? |
| 72. | On the actual drawing, there are no visible differences from the first draft. Has the \_\_\_\_\_. version (1120B) been sent accidently, incorrectly labelled as 1120C, instead of the new drawing? |
| 73. | The practice of overdesigning components can be described as the \_\_\_\_\_ approach. |
| 74. | Most engineering designs make provision for excessive or abnormal operating conditions. Replace the underlined words with an alternative expression. |
| 75. | After team members have received a drawing, they can comment on it, and may ask for the design to be changed. Following these comments, the drawing will be revised. Every drawing is numbered, and each time a drawing is revised, the letter next to the drawing number is changed. Therefore drawing 110A, after a revision, becomes 110B. With each new revision, written notes are added to the drawing. These notes \_\_\_\_\_. |
| 76. | Design information is shown on drawings, and written in specifications - documents which describe the materials, sizes and technical requirements of components. In order to specify this detailed information, an engineer must evaluate the loads (forces) that key components will have to carry. So the task of an engineer is \_\_\_\_\_. |
| 77. | The critical question is, how much of a percentage of extra size or capacity should be applied without adding too much of a margin? To calculate an amount for this figure, it is critical to assess the consequences of a technical failure. Why is the assessment of consequences obligatory? |
| 78. | Maximum fuselage width is the \_\_\_\_\_ of the aircraft’s body - how wide it is, measured horizontally between vertical planes striking the outside faces of the fuselage. |
| 79. | If a surface is described as being level, this means it is both horizontal and flat. However, a surface, which is flat, is not necessarily horizontal. A flat surface may be vertical or sloping at an angle to the horizontal or vertical plane. It means it is \_\_\_\_\_. |
| 80. | On EHV transmission lines, cables - called conductors – span between pylons, which are described as supports. The conductors are suspended from the supports by rods, called insulators. On straight sections of line, the insulators are \_\_\_\_\_ hanging vertically from the supports. |
| 81. | A wireless standard used for PANs (personal area network) is \_\_\_\_\_. |
| 82. | \_\_\_\_\_ is a machine, instrument, piece of equipment or any other device with internal computing capability. |
| 83. | Choose the adjective which describes networks without cables. |
| 84. | Touch screens, remote control and computers are different types of \_\_\_\_\_. |
| 85. | A smoke sensor is an example of a command \_\_\_\_\_. |
| 86. | The automatic operation of a system or process is \_\_\_\_\_.. |
| 87. | The term domotics comes from *domus* and \_\_\_\_\_. |
| 88. | Choose the adjective which describes homes and devices that use IT technology. |
| 89. | A light switch can be used as a command \_\_\_\_\_. |
| 90. | LANs where the devices are connected with cables or electrical wiring are \_\_\_\_\_. |
| 91. | Subatomic particles used in quantum computers are \_\_\_\_\_. |
| 92. | A microchip made with organic materials is \_\_\_\_\_. |
| 93. | Find synonym to words “fixed”, “integrated” |
| 94. | The device or program used to interact with a computer is \_\_\_\_\_. |
| 95. | The speed at which the CPU processes instructions is \_\_\_\_\_. |
| 96. | \_\_\_\_\_ is a version of the online world that incorporates advanced technologies to enhance user engagement and blur the line between the user's physical reality and the digital environment. |
| 97. | \_\_\_\_\_ consists of a tiny radio transponder; a radio receiver and transmitter. |
| 98. | \_\_\_\_\_ is a computer for carrying on the body, for example, on the wrist. It allows you to work, communicate, entertain right along ensuring mobility and hands-free and/or eyes-free access to the device. |
| 99. | Find synonyms to the word “security” |
| 100. | Find synonyms to the word “comfort” |
| 101. | A \_\_\_\_\_ is a computer-programmed machine that performs actions, manipulates objects in a precise and repetitive way. |
| 102. | Robots may be automata, or man-like machines, whose components are similar to a \_\_\_\_\_ body. |
| 103. | Robots’ heart and muscles are electric or \_\_\_\_\_ motors or systems. |
| 104. | The word robot comes from robota, meaning compulsory \_\_\_\_\_ in Czech; similarly, robots are helpful in activities which are too dangerous, too boring or too precise for human beings. |
| 105. | Planetary \_\_\_\_\_, remotely-operated vehicles, are used to explore space. |
| 106. | Artificial Intelligence is the science that tries to recreate the \_\_\_\_\_ process and build machines that perform tasks that normally require human intelligence. |
| 107. | \_\_\_\_\_ are anthropomorphic robots designed to look and behave like a human being. |
| 108. | Neural networks are a new concept in computer programming, designed to \_\_\_\_\_ the human ability to handle ambiguity by learning from trial and error. |
| 109. | Domotics, also known as automation, involves the use of information technology applied to domestic \_\_\_\_\_ in order to create intelligent systems inside the house. |
| 110. | Intelligent homes are controlled with different types of \_\_\_\_\_, devices that facilitate communication between the user and the system. |
| 111. | Sound and video systems, optical and thermal sensors in intelligent homes can be linked with \_\_\_\_\_ systems |
| 112. | Bluetooth, a short-range radio system used to communicate between portable devices, is now used to design \_\_\_\_\_ inside the home. |
| 113. | Intelligent systems are able to perform a series of activities to improve safety, i.e. control heat and smoke \_\_\_\_\_. |
| 114. | What does the term ‘quantum bits’ mean? |
| 115. | \_\_\_\_\_ technology help to raise and lower motorized cupboards and sinks for people with mobility problems. |
| 116. | \_\_\_\_\_ is the science of creating and using materials or devices at molecular and atomic sizes. |
| 117. | 1 nanometre is equal to one billionth of a \_\_\_\_\_. |
| 118. | \_\_\_\_\_ computers will be embedded in a variety of items, e.g. in a belt or a piece of jewellery, etc. |
| 119. | Gesture interfaces will be based on \_\_\_\_\_ recognition systems. |
| 120. | In the near future we’ll be able to swim in the immersive internet, a \_\_\_\_\_ world. |
| 121. | Domotics, from the Latin word *domus* plus robotics, also known as automation, involves the use of information technology applied to domestic appliances in order to create intelligent systems inside the house.  What is domotics used for? |
| 122. | Domotics, from the Latin word *domus* plus robotics, also known as automation, involves the use of information technology applied to domestic appliances in order to create intelligent systems inside the house.  What is the origin of the word *domotics*? |
| 123. | Basic intelligent devices, traditional devices with an embedded processor, have been with us for a while, e.g. microwave ovens and washing machines with computerized controls.  What kind of devices are microwave ovens and washing machines with computerized controls? |
| 124. | Basic intelligent devices, traditional devices with an embedded processor, have been with us for a while, e.g. microwave ovens and washing machines with computerized controls.  What type of processor is used in traditional devices? |
| 125. | Intelligent homes are a wider concept: all the systems and devices are connected in a LAN, local area network, where they communicate with each other and are controlled by a central computer sometimes installed in one of the machines.  What is LAN? |
| 126. | Intelligent homes are a wider concept: all the systems and devices are connected in a LAN, local area network, where they communicate with each other and are controlled by a central computer sometimes installed in one of the machines.  What is installed in machines? |
| 127. | Intelligent homes are a wider concept: all the systems and devices are connected in a LAN, local area network, where they communicate with each other and are controlled by a central computer sometimes installed in one of the machines.  What are connected in a LAN? |
| 128. | Intelligent homes are controlled with different types of interfaces, devices that facilitate communication between the user and the system: physical switches, touch screens, IR (infrared) remote controls, computers either at home or at distance, telephony.  What is controlled with different types of interfaces, devices? |
| 129. | The different elements perform one of these two functions: they are either command initiators, e.g. a brightness sensor that is programmed to send an instruction when it gets dark, or command receivers, e.g. a light that turns on when it receives an instruction sent by the sensor.  What sends an instruction when it gets dark? |
| 130. | The different elements perform one of these two functions: they are either command initiators, e.g. a brightness sensor that is programmed to send an instruction when it gets dark, or command receivers, e.g. a light that turns on when it receives an instruction sent by the sensor.  What sends an instruction to turn on the lights? |
| 131. | Household appliances sound and video systems, optical and thermal sensors, etc. can be linked with wired and wireless systems. Wired LANs use different types of cables and also electrical wiring.  How are household appliances linked? |
| 132. | WLANs wireless networks use radio-frequency systems: Bluetooth, a short-range radio system used to communicate between portable devices (laptop, PDAs, mobile phones, etc.), is now frequently used to design PANs (personal area networks) inside the home.  What is used to communicate between portable devices? |
| 133. | WLANs wireless networks use radio-frequency systems: Bluetooth, a short-range radio system used to communicate between portable devices (laptop, PDAs, mobile phones, etc.), is now frequently used to design PANs (personal area networks) inside the home.  What is PAN? |
| 134. | Computers will be embedded or hidden in a variety of items. For example, we`ll have wearable computers that will be embedded in a belt or a piece of jewellery, etc.  What will be embedded in a belt or piece of jewellery? |
| 135. | ICT devices will be mobile and multimedia: we`ll watch mobile TV programmes on our phones, which will also access the Internet and work as a mobile office.  What will allow us to watch TV programmes? |
| 136. | In the near future we`ll be able to swim in the immersive Internet, a technology that will change the two-dimensional world of the Internet into a 3-D experience with three-dimensional sound and images and even the sense of touch.  What will change the two-dimensional world of the Internet into a 3-D experience with three-dimensional sound and images and even the sense of touch? |
| 137. | By the year 2040 there might be intelligent robots, machines that will be able to think creatively. The processing power of computers may have reached  1 00 000 000 MIPS (millions of instructions per second), the estimated speed of human thought.  What might appear by the year 2040? |
| 138. | Computer chips can be injected under the skin. RFID, radio-frequency identification tags, might be used to track or identify people or to store information, such as medical data, although there are concerns about privacy and personal safety.  What can be injected under the skin? |
| 139. | Computer chips can be injected under the skin. RFID, radio-frequency identification tags, might be used to track or identify people or to store information, such as medical data, although there are concerns about privacy and personal safety.  What radio-frequency identification tags, might be used for? |
| 140. | User interfaces, the systems that facilitate communication between people and computers, will resemble human communication. There will be gesture interfaces based on facial-hand recognition systems.  What will resemble human communication? |
| 141. | By the year 2040 there might be intelligent robots, machines that will be able to think creatively. The processing power of computers may have reached 1,000,000,000 MIPS, the estimated speed of human thought.  MIPS stands for: |
| 142. | Computer chips can be injected under the skin: RFID might be used to track or identify people or to store information, such as medical data, although there are concerns about privacy and personal safety.  RFID stands for: |
| 143. | Computer chips can be injected under the skin: RFID might be used to track or identify people or to store information, such as medical data, although there are concerns about privacy and personal safety.  According to the piece of text: |
| 144. | Quantum computers, based on quantum mechanics, may be millions of times faster than current computers. They will be so fast because they will be able to examine all possible answers to a query at the same time. This capability is made possible by qbits, quantum bits, which can be 0 or 1 simultaneously.  It is inferred that: |
| 145. | Nanobots, robots formed from molecules or molecular components, will be used in medicine to control and diagnose diseases. For example, they will be injected and will move through blood vessels destroying cholesterol molecules or cancer.  Which statement is true? |
| 146. | Intelligent systems are able to perform a series of activities to improve some areas: security, safety, comfort and economy, i.e. to turn on and off alarm systems and phone emergency services if needed, also to open and close doors and gates, blinds or curtains; detect motion and switch on and off lights accordingly.  Which statement is true? |
| 147. | Scientists at Aberystwyth University are working on a machine which they hope will recognize objects with cameras that will work as sensors, and retrieve objects with an arm that will be its end effector.  Which of the following is not true? |
| 148. | The team of scientists of Aberystwyth University hopes to discover how the performs ‘multi-tasking’ and to use that information to develop the computer system to create a robot that can think for itself.  Which statement is true? |
| 149. | Expert systems is the term given to computer software that mimics human reasoning, by using a set of rules to analyze data and reach conclusions. Some expert systems help doctors diagnose illnesses based on symptoms.  Which statement is true? |
| 150. | Neural networks are a new concept in computer programming. They use silicon neurons to imitate the functions of cells and usually involve a great number of processors working at the same time.  The purpose of the information is: |
| 151. | Robotic arms, telescopic or bending arms, are widely used in the automobile industry to paint, weld and assemble car parts. Robots are also used in electronic assembly of microchips where precision of movements is essential.  Which is true? |
| 152. | Mobile robots, vehicles controlled by human operators, are used for defusing bombs and handling hazardous materials.  What area does the information correspond to? |
| 153. | Robots may be automata, or man-like machines, whose basic components are similar to a human body.  Which characteristic doesn’t correspond to man-like machine? |
| 154. | Basic intelligent devices, traditional devices with an embedded processor, have been with us for a while, e.g. …  What is not an example of intelligent devices? |
| 155. | “Nanocomputers, molecule-sized computers, may have the power of 100 workstations but only be the size of a grain.”  This idea implies that… |
| 156. | New category of software known as DRM is designed to enable the monitoring, managing, and servicing of intelligent devices over the Internet. Sun Microsystems is promoting Jini , a way to connect new devices into a network in which the devices themselves will describe how to communicate with them.  What does DRM stand for? |
| 157. | “Reducing the energy consumption, lightening light and gas bills, it's a goal achievable thanks to the benefits resulting from the new building technologies domotic system implementation. Thanks to the real time consumption visualization and the use statistics, you can obtain a great economic saving.”  The information deals with… |
| 158. | Which of the following is not true about the future technologies? |
| 159. | Narrow AI is a kind of artificial intelligence operates within a limited context and is a simulation of human intelligence. Narrow AI is often focused on performing a single task extremely well and while these machines may seem intelligent, they are operating under far more constraints and limitations than even the most basic human intelligence.  What is the other expression to ‘narrow AI’? |
| 160. | Artificial General Intelligence (AGI) is the kind of artificial intelligence we see in the movies, like the robots from Westworld or Data from Star Trek: The Next Generation. AGI is a machine with general intelligence and, much like a human being, it can apply that intelligence to solve any problem.  What is the other expression to AGI? |