

Vocabulary Ten

Instructions

Take a look at the focus words below. Think about what each word means and how it is used. Then answer the questions after each word.

Remember: You *don't* have to understand every word in the example sentences.

Focus words: develop, measure, obtain, strain, vector

I. develop

1. His goal was to **develop** a universal algebra for reasoning.
2. Rolls-Royce had to **develop** a special age-hardened aluminum alloy (RR58) which would not over-age during the lifetime of the Concorde supersonic airplane.
3. With supervised data mining, data miners **develop** a model prior to the analysis and then apply statistical techniques to the data to estimate parameters of the model.
4. **Develop** a suitable set of dimensionless parameters for this problem.
5. The objective of this chapter is to **develop** the analysis of member forces of statically determinate plane and space trusses.
6. To **develop** the method of least work, let us consider a statically indeterminate beam with unyielding supports subjected to an external load.

What do you think **develop** means? Use a dictionary to help.

Look at the sentences below. Do you think **develop** is being used correctly?

Circle your answer.

1. Their goal was to **develop** and enumerate the different compounds made possible by joining atoms of various substances.

correct

incorrect

Vocabulary Ten

2. His idea was to **develop** for a new plan to improve his work.

correct

incorrect

3. **Develop** a computer program for calculating the density of an ideal gas when the gas pressure in pascals.

correct

incorrect

4. Later in the text we **develop** about the laws that govern other types of waves.

correct

incorrect

5. The basic idea is to **develop** a set of simple operations that we can apply to a system of equations to rearrange them algebraically.

correct

incorrect

6. Can you help me with **develop** a good idea for my new project?

correct

incorrect

Write a sentence that uses the word **develop**. Use the examples above to guide you.

Vocabulary Ten

II. measure

1. How would you attempt to **measure** the yield strength of a ceramic?
2. To **measure** the amount of work that an algorithm requires, we generally make a rough count of the number of basic operations.
3. Length, area, and volume **measure** the spatial extension of an object.
4. The most commonly used **measure** of a gasoline's ability to burn without knocking is its octane number.
5. For low speed flow over a flat plate, one **measure** of the boundary layer is the resulting thickness.
6. It is a **measure** of the internal friction that arises when velocity gradients are present in the fluid.
7. We intend to apply a force to the body and **measure** its acceleration.
8. Sound waves can be used to **measure** the speed at which blood flows in arteries and veins.

What part of speech is the word **measure** in examples 1, 2, 3, 7 and 8?

What part of speech is the word **measure** in examples 4, 5 and 6?

What do you think the word **measure** means? Use a dictionary to help.

Look at the sentences below. Do you think **measure** is being used correctly?

Circle your answer.

1. It is much easier to **measure** the force required to break a beam in bending (Figure 16.1).

correct incorrect
2. An experiment is being designed to **measure** aerodynamic forces on a building.

correct incorrect

Vocabulary Ten

3. First, you need to **measure** about the length of the object.

correct incorrect

4. Density is a **measure** of the mass per unit volume.

correct incorrect

5. Relative humidity is a **measure** of air's ability to absorb more water.

correct incorrect

6. One way is to compress the material with a known compressive force, and **measure** the strain.

correct incorrect

Write a sentence that uses the word **measure**. Use the examples above to guide you.

III. obtain

1. For example, one common task for a function is to **obtain** an input value from the user and set the value of an argument variable.
2. How can we **obtain** the sum of ExtendedPrice for items managed by the Water Sports department?
3. By substituting Eqs. (13.1) and (13.3) into Eq. (13.2), we **obtain** the compatibility equation which can be solved to express the redundant C.
4. Once that has been done, it then uses a SELECT to **obtain** a value for the WorkID value.
5. If we can **obtain** the unknown forces using the above equations of equilibrium, we call the problem as statically determinate.
6. To **obtain** an auxiliary view, the observer changes position with respect to the object, as shown by the arrow in Fig. 9.1 a.
7. From this method we **obtain** information about the flow in terms of what happens at fixed points in space as the fluid flows through those points.

Vocabulary Ten

What do you think the word **obtain** means? Use a dictionary to help.

Look at the sentences below. Do you think **obtain** is being used correctly?

Circle your answer.

- If you have not done these things, you should **obtain** a copy of Microsoft Access 2007.
correct incorrect
- We can **obtain** a set of mathematical laws in the form of equations that relate physical variables.
correct incorrect
- Contact your power company and **obtain** with information on the thermodynamic aspects of their most recently built power plant.
correct incorrect
- Suppose we want to **obtain** ${}^3\text{U}$ instead of ${}^4\text{U}$ as the end product of a diffusion process.
correct incorrect
- Calculate the total virtual work resulting for **obtain** an equation for the unknown force.
correct incorrect
- Obtain** an expression for the redox potential of an electrolyte.
correct incorrect

Write a sentence that uses the word **obtain**. Use the examples above to guide you.

Vocabulary Ten

IV. strain

1. Determine the strength coefficient and the **strain**-hardening exponent for this metal.
2. Equation (14.12) indicates symbolically that the **strain** energy for the beam is expressed as a function of the known external load M .
3. These characteristics are shown in the figure by the **stress-strain** curves for three grades of rubber.
4. Thus we get the **strain** components as in Equation (10.30).
5. The stress-**strain** diagram is assumed to be independent of the size of the specimen and gauge length.
6. For brittle materials, a stress-**strain** curve carried out in a tension test will differ from the corresponding curve carried out as a compression test.

What do you think the word **strain** means? Use a dictionary to help.

Look at the sentences below. Do you think **strain** is being used correctly?

Circle your answer.

1. Ceramic materials are rigid and brittle, exhibiting a stress-**strain** behavior best characterized as perfectly elastic.

correct incorrect
2. Therefore we get the **strain** at components as shown in Diagram 3.1b.

correct incorrect
3. Use the **straining**-stressing curve to find the answer.

correct incorrect
4. An expression for the **strain** energy can be written in terms of the known load.

correct incorrect
5. The equation about **strain** energy with the problem is shown in Figure 7.23.

correct incorrect

Vocabulary Ten

6. The stress-**strain** diagram for different materials differs widely.

correct

incorrect

Write a sentence that uses the word **strain**. Use the examples above to guide you.

V. vector

1. Similarly, a **vector** field in 3-space is a function that associates with each point P in 3-space a unique **vector**.
2. So, it is usually not possible to describe a **vector** field completely by drawing finitely many **vectors**.
3. The **vector** field in part (a) might describe the velocity of the current in a stream at various depths.
4. For each body, find the **vector** sum of all the forces.
5. In handwritten work, a **vector** is generally indicated with an overbar or underbar-F or E.
6. In diagrams, a **vector** is represented by an arrow to show its direction.

What do you think the word **vector** means? Use a dictionary to help.

In examples 1 and 2, the word **vector** is used twice. Is there a difference in how **vector** is used?

What about in examples 3 and 4 compared to examples 5 and 6? Is there a difference in how **vector** is used?

Vocabulary Ten

Look at the sentences below. Do you think **vector** is being used correctly?

Circle your answer.

1. Calculate for **vector** field about the following equation.

correct

incorrect

2. The **vector** field in part (b) might describe the velocity at points on a rotating wheel.

correct

incorrect

3. Express the moment as a **vector**.

correct

incorrect

4. Force is also a **vector** quantity.

correct

incorrect

5. Velocity is a **vector** quantity, but speed is not.

correct

incorrect

6. Look at the diagram below. What is the **vector** about sum of the forces?

correct

incorrect

Write a sentence that uses the word **vector**. Use the examples above to guide you.

Vocabulary Ten

VI. Choose **three** of the focus words and use them in a short paragraph.

Vocabulary Ten

VII. Look at the example sentences. What words come before and after each of the focus words? Put each word in a suitable category.

before the focus word	develop	measure	measure	obtain	strain	vector
noun						
verb						
preposition	to					
article						
other word types						

after the focus word	develop	measure	measure	obtain	strain	vector
noun						
verb						
preposition	a					
other word types						

Are there any patterns that you notice? Click [here](#) to see more examples of the focus words in use.

What does the pattern tell you about how the focus word is used?

Vocabulary Ten

VIII. Do the focus words have any other parts of speech? Complete the table. Not all focus words have all parts of speech that are shown in the table.

	develop	measure	measure	obtain	strain	vector
noun		measure				
verb			measure			
adjective						
adverb						