

# Vocabulary Eight

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## 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:** with respect to, transfer, occur, produce, depend, solve

### I. with respect to

1. Find the instantaneous rate of change of  $y$  **with respect to**  $x$ .
2. In a molecule, the atoms can rotate and vibrate **with respect to** each other.
3. Modify Prim's algorithm to find a spanning tree that is minimal **with respect to** those containing a specified edge.
4. Viscosity is defined more precisely **with respect to** the setup in Figure 3.17, in which two parallel plates are separated by a distance  $d$ .
5. A man rowing a boat upstream is at rest **with respect to** the shore.
6. The narrow point in the neck is the point at which the rate of change of  $y$  **with respect to**  $t$  changes from increasing to decreasing.

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

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Look at the sentences below. Do you think **with respect to** is being used correctly?

Circle your answer.

1. Explain the meaning of an electrode potential being positive or negative **with respect to** hydrogen electrode.

correct

incorrect

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2. **With respect to** the (level of the) current node, we find the smallest of the two children and four grandchildren; call this MinChild.

correct

incorrect

3. This work **with respect to** about Newton's work is important.

correct

incorrect

4. Let us consider a point F a cross-section plane with coordinates (y, z) **with respect to** centroid of the section, o.

correct

incorrect

5. What is the initial velocity  $v_E$  of the ball **with respect to** the Earth?

correct

incorrect

6. Calculate the value of t **with respecting to**  $\Phi$ .

correct

incorrect

Write a sentence that uses the phrase **with respect to**. Use the examples above to guide you.

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### II. transfer

1. The heat **transfer** out of the ice cream mix allows it to freeze.
2. The rate of heat **transfer** can be calculated by Equation 5.17.
3. The Q and W terms usually represent respectively heat **transfer** across a heat exchange surface and mechanical work done by a rotating shaft or piston.
4. The heat (Q) and work (W) terms in the energy balance correspond to **transfer** of energy without the **transfer** of material across the system envelope.
5. Convection is the **transfer** of energy between surface and the adjacent fluid that is in motion.
6. Conduction is the **transfer** of energy from the more particles of a substance to the adjacent less energetic ones as a result between particles.

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

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

Circle your answer.

1. The **transfer** about energy is not perfect, so some energy is wasted in the process.  
correct                      incorrect
2. There is a **transfer** of work from the fluid to the blade.  
correct                      incorrect
3. The heat **transfer** factor in welding is correctly defined by which one of the following descriptions:  
correct                      incorrect

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4. Due to **transfer** heat into the pipe, the air temperature,  $T$ , within the pipe is  $T = 300 + l$   
 $0x$  °C.

correct

incorrect

5. Therefore, it is to have a reversible heat **transfer** process.

correct

incorrect

6. Equation 2.2 may give you the false impression that the **transfer** of energy is 100%  
efficient.

correct

incorrect

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

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### III. occur

1. They also **occur** in suitable areas of central Australia and in the understorey of coastal eucalypt forests.
2. The lattice deformation shown in (c) of the figure is one possible mechanism, called slip, by which plastic deformation can **occur** in a crystalline structure.
3. The serializable isolation level will not allow any of these three problems to **occur**.
4. The true and false operators must be implemented as a pair, or a compiler error will **occur**.
5. Corrosion can **occur** on the interior of the pipe as a result of reactions with wastewater.
6. Particularly large tides, called spring tides, **occur** at full moon and at new moon, when the configurations of the Sun, Earth, and Moon are as shown in Fig. 14-27.

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

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

Circle your answer.

1. This problem can **occur** at any time during the procedure.

correct

incorrect

2. Logistic regression produces equations that offer probabilities that particular events will **occur**.

correct

incorrect

3. Although some plasticity can **occur** at the tip of a crack in a ceramic too, it is very limited.

correct

incorrect

4. The fact of having a driving force does not guarantee that a change about **occur**.

correct

incorrect

5. This plant will also **occur** by areas with a lot of rain.

correct

incorrect

6. A similar sort of goof has been known to **occur** when copper roofing sheet has been secured with steel nails.

correct

incorrect

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

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### IV. produce

1. This chapter introduces the main physical characteristics of the marine environment and how they interact with the biota to **produce** specific marine habitats.
2. The idea is to **produce** a list of keywords.
3. It assumes that you have used a product such as Microsoft Access to enter data into a form, to **produce** a report, and possibly to execute a query.
4. A graph is formed by activating appropriate pixels to **produce** the curve shape.
5. We observe that a given force can **produce** various amounts of angular acceleration.
6. These cloths generally have a surface that will **produce** dense black lines when hard pencils are used.

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

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

Circle your answer.

1. The force will **produce** a change in acceleration in the object.  

correct                      incorrect
2. Any misalignment can **produce** a nonsymmetrical flow field that may introduce errors.  

correct                      incorrect
3. This discovery gave rise to the first "ethyl" gasoline, and enabled the petroleum industry to **produce** aviation gasolines with octane numbers greater than 100.  

correct                      incorrect
4. Polymers can be processed in various ways to **produce** around thin fibers.  

correct                      incorrect
5. The sulfur burns for **produce** with oxides such as  $\text{SO}_2$ , which contribute to acid rain.  

correct                      incorrect

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6. These measurements are used to **produce** the polytropic process.

correct

incorrect

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

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### V. depend

1. In general, eucalypt forests **depend** on fire for regeneration and maintenance.
2. How much work this will be for a particular subset will also **depend** on the number of experiments in it.
3. The problem with this simulation strategy is that its running time does not **depend** on the number of customers or events.
4. The extent to which the interface warms up will **depend** on how fast heat is generated there.
5. The flow characteristics **depend** strongly on the amount of streamlining present.
6. The decision invariably will **depend** on how you plan to use the system and how much you can afford to pay for it.

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

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

Circle your answer.

1. Your answer will **depend** on the initial conditions.

correct

incorrect

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2. These fuels **depend** on the nuclear forces within atoms.

correct

incorrect

3. Deformation does not **depend** on how the particular state of strain and stress has been obtained.

correct

incorrect

4. Does it **depend** for their temperature?

correct

incorrect

5. The value does not **depend** significantly on loading time.

correct

incorrect

6. Furthermore, the deflection caused should **depend** about how long a time these forces act on the object.

correct

incorrect

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

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### VI. solve

1. His ability to **solve** problems in his head was beyond belief.
2. If we are to **solve** the "extra challenge," then we must find a cycle that visits every edge exactly once.
3. Various attempts have been made to **solve** this closure problem.
4. We then write a materials balance equation to **solve** for unknown inputs.
5. A second problem is to **solve** a popular word puzzle.
6. Use the graphs of the functions  $f$  and  $g$  in the accompanying figure to **solve** the following problems.

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

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

Circle your answer.

1. Explain your answer and show your work for **solve** to the problem.

correct                      incorrect

2. Show how to **solve** in the Josephus problem.

correct                      incorrect

We are now ready to **solve** Problem 15.6.2.

correct                      incorrect

3. To **solve** the Navier-Stokes equations for the velocity and pressure fields in a viscous flow, one must specify the particular flow geometry.

correct                      incorrect

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4. Use a spreadsheet program that you have written to **solve** this problem.

correct

incorrect

5. Now set up the equilibrium equations (three if planar, six if space) and **solve** for the unknowns.

correct

incorrect

6. To eliminate the parameter we will **solve** the first equation for  $t$  as a function of  $x$ , and then substitute this expression for  $t$  into the second equation.

correct

incorrect

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

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

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**VIII.** 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	with respect to	transfer	occur	produce	depend	solve
noun					<b>forests</b>	
verb						
preposition						
article						
other word types						

after the focus word	with respect to	transfer	occur	produce	depend	solve
noun						
verb						
preposition					<b>on</b>	
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?**

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**IX.** 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.

	transfer	occur	produce	depend	solve
noun		<b>occurrence</b>			
verb					
adjective					
adverb					

How do we classify *with respect to*?