Kingsborough Community College
2001 Oriental Blvd.
Brooklyn, New York 11235

HSE51/KS11 – Lesson # 7

Professor Toro

Subject: Writing (74 – 77)

Topic – Word Choice, Defining a word using Content

Writers are very careful when choosing words in their piece of writing. The use of connotation is very important. The positive and negative association to writer's work.

Definitions:

Figurative Language- means to make their writing vivid to the reader. These are the common:

- Simile – compare two things another, using the words ***like or as.***
- Metaphor – an indirect comparison between two things.(***using verbs)***
- Personification – the use of animals portraying humans and things/objects that are not alive

Defining a Word using Context

Writers identify the meaning of a word by using c***ontext clues.*** They are hints placed in a sentence, paragraph, etc. to help the reader understand the connection/relationship of a word, and will also indicate if the word or words are in a positive or negative connotation.

Why are context clues important?

Context clues help you understand the meaning of words and helps you with comprehension, when reading a piece of writing. It also helps build vocabulary, and helps people to become better readers.

Writer's Tone and Point of View

Definitions;

Tone – the meaning of ***tone***, is the writer's ***attitude*** in a piece of writing. You can decipher the tone of a writer by the choice of words/syntax that he/she uses when writing. The tone is his/her expression, and emotions through description, that allows the reader, or viewer to feel what is happening along the story. It allows you to feel that you are part of the scene.

Point of View – Is the diction and the formality in a piece of writing. There are three types of point of view:

- ***First person point of view – stories and novels are written in 1st person point of view, where we can see the inside the character's eyes.(I, me, mine, myself, we, our, ourselves)***

• ***Second person point of view – Is the perspective of the narrator telling the story. (you,yourself, your, yours or yourselves)***

•***Third person point of view – author knows all in the story and narrates the story about the characters. (he, him, himself, she, her, hers, it, its, itself, them, their, theirs, themselves, etc.***

What is the purpose of point of view?

It helps the readers understand the story, character's feelings and emotions.
Writers are able to review/criticize someone's work, in a positive or negative connotation.

Subject: Science (552 - 557)

Topic: Atoms, Elements and the Periodic Table, Atomic Bonds

Definitions:

Periodic Table – is a chart that contains elements.They are all arranged in order, by its ***atomic number and its atomic weight.*** Each element has a c***hemical symbol.*** When atoms combine they form molecules. When elements combine with other elements, they are known as ***compounds.*** Each compound is represented by a formula. When substances combine they are known as ***mixtures.***

There are two types of mixtures.

•heterogeneous – mixture not completely blended – guacamole
•homologous – mixture that blends evenly – coffee and milk, water and sugar
When mixtures blend easily it is known as a ***solution.***

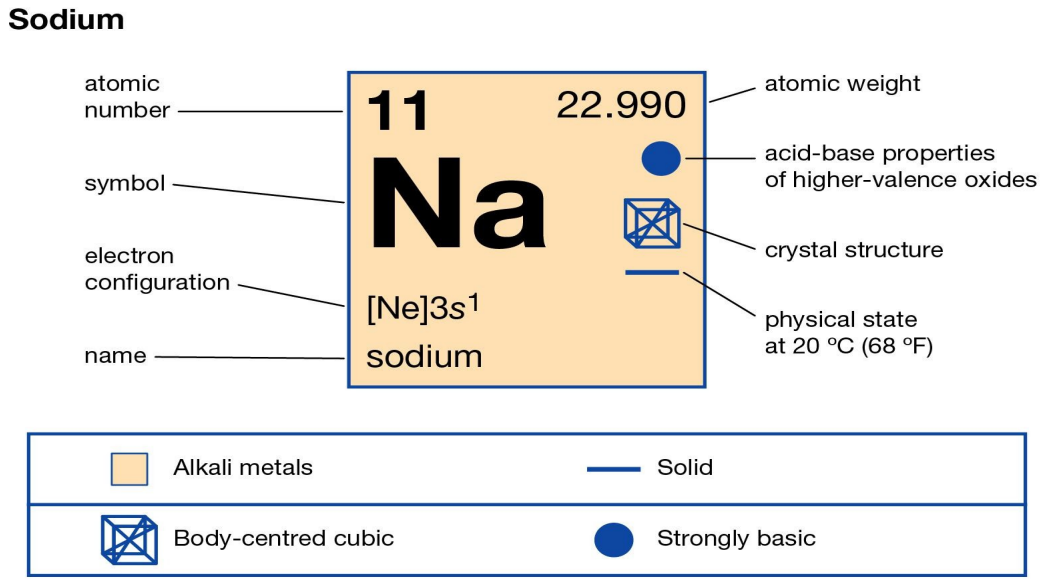
Scientists:

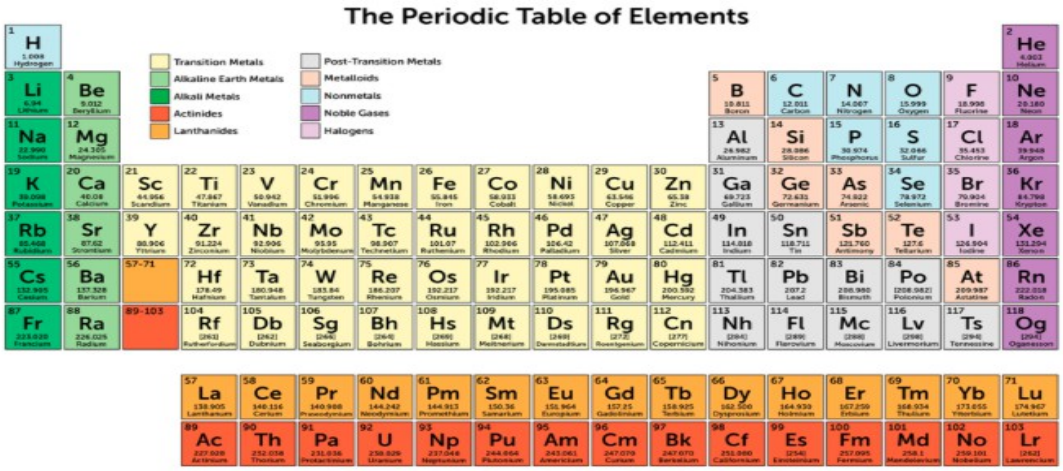
Dimitri Mendeleev was a Russian Chemist and teacher, who created the Periodic Table. He arranged them in order according to its atomic number and atomic weight. He created the Table to make a clear idea of the physical and chemical properties that are so important in science.

Another scientist that also did experiments with the periodic table was ***Ernest Rutherford.*** He did experiments, using the element of gold foil. As a result was able to determine that particles scatters around, which means that atoms surround the nucleus.

Niel Bohr - He created a model using the element of hydrogen. His greatest contribution was to be able to understand the atomic structure and quantum theory, (states that energy is transferred in quantities) which he later received a Nobel Prize.

Example: NaCl – Chemical Formula ----- Na + Cl --- = Sodium Chloride (name) = Salt



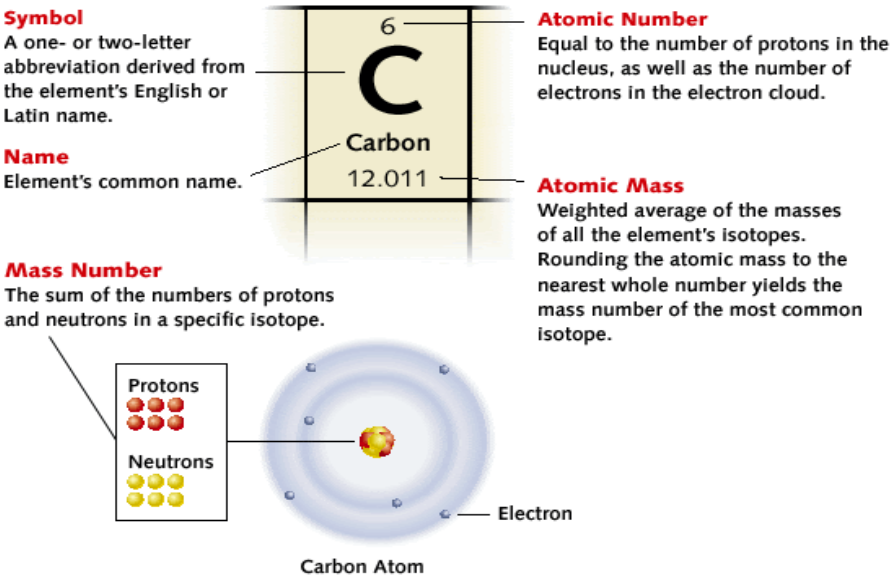


How many unpaired electrons are in the low-spin octahedral complex $[Co(CN)_6]^{4-}$?

The numbers from left to right (1 – 18) are known as ***Periods.*** The ***vertical columns are known as Groups.***

Each element has charges in its ***Cloud***. (Nucleus)

- •protons – positive charge
- •electrons – negative charge
- •neutrons – neutral no charge



Each orbit contains a dimensional ***energy level.***

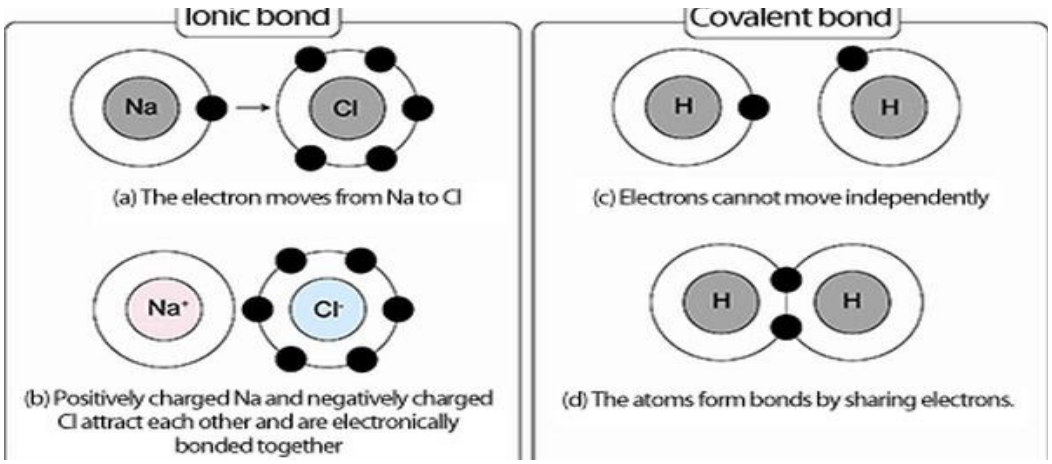
Level 1 = 2
Level 2 = 8
Level 3 =18
Level 4 = 32

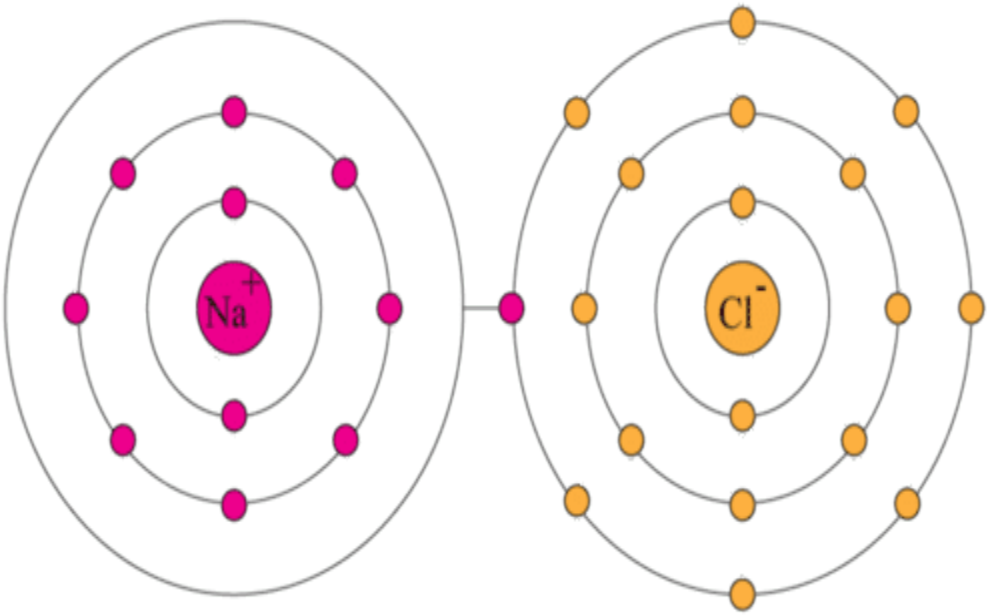
Atomic Bonds – is the process in which atoms ***trade*** electrons to form molecules. ***In other words, the losing and gaining of an electron.***

Ionic Bond – in an ionic bond, one atom takes one or more electrons from another.

Covalent Bonds – bond between two elements that gain electrons.

Valence electron – is the last electron in the dimensional cloud, in which will share an electron with another element.





Subject: Math

Pages (394 – 399)
Topics: Geometry (Perimeter, Area, Circumference, Volume) formulas in different shapes.

Definitions:

Perimeter – is the sum/addition in length/distance of a closed shape.

Area – is the number of units in a dimensional shape.

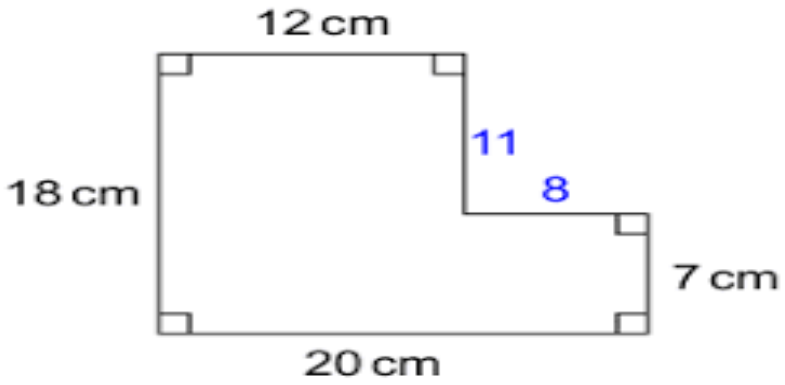
Circumference – is a curved closed shape, that begins in an endpoint and meets at the same close points.

It is the distance around or perimeter of a circle. The ratio of the circumference to the diameter of any circle is a constant value known as (“***pi”)***

The symbol for ***(pi) is (π) pi = (3.14 or 22/7)***

Volume – is the amount of a tri-dimensional closed shape.

Formula for Perimeter is (***P)***



Formula for Area are:

Parallelogram A = (l x w)

Formula for Area of a Triangle is A = ***½ (b x h)***

Rectangle is A = b x h or A = bh

Formula Area for a ***Square is A = s²***

Formula for ***Circumference = C = πd or C = 2πr (d – diameter) (r – radius)***

Formula for Area of a Circle = ***A = πr²***

Formula for Area of Irregular Figures = ***A = (½ bh)+ s²***

Formula for ***Volume = l x w x h***

Formula for Volume of ***Pyramids and Prisms:***

Rectangular Prism = V = Bh

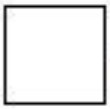
Rectangular Pyramid = V = 1/3 Bh

Triangular Prism = V = (½ bh)

Triangular Pyramid = V = 1/3 Bh

Geometry Formulas Sheet

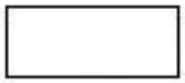
Square



$A = s^2$ $P = 4s$

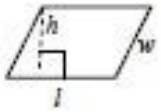
Rectangle

$A = lw$



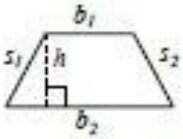
$P = 2l + 2w$

Parallelogram



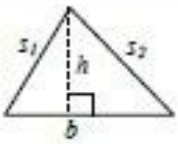
$A = lh$ $P = 2l + 2w$

Trapezoid $A = \frac{1}{2}h(b_1 + b_2)$



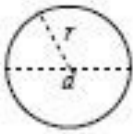
$P = s_1 + s_2 + b_1 + b_2$

Triangle



$A = \frac{1}{2}bh$ $P = s_1 + s_2 + b$

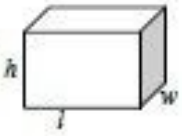
Circle



$A = \pi * r^2$

$C = 2\pi * r$ or $C = \pi * d$

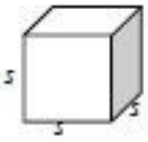
Rectangular Solid



$V = hwh$

$S = 2lh + 2wh + 2wl$

Cube



$V = s^3$ $S = 6s^2$

Right Circular Cylinder

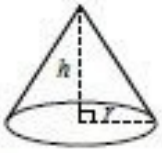
$V = \pi * r^2 h$

$S = 2\pi * rh + 2\pi * r^2$

Sphere

$V = \frac{4}{3}\pi * r^3$ $S = 4\pi * r^2$

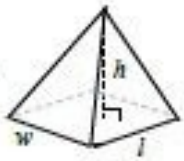
Right Circular Cone



$V = \frac{1}{3}\pi * r^2 h$

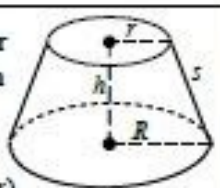
$S = \pi * r\sqrt{r^2 + h^2}$

Square or Rectangular Pyramid



$V = \frac{1}{3}lwh$

Right Circular Cone Frustum



$S = \pi * s(R + r)$

$V = \frac{\pi(r^2 + rR + R^2)h}{3}$

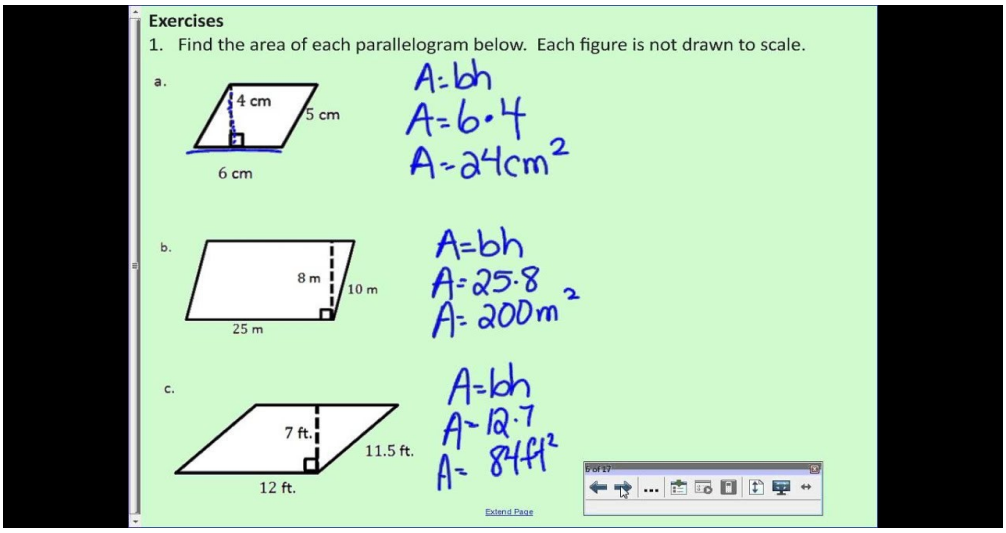
Geometric Symbols

A = Area
P = Perimeter
V = Volume
S = Surface Area
C = Circumference
π = PI Constant

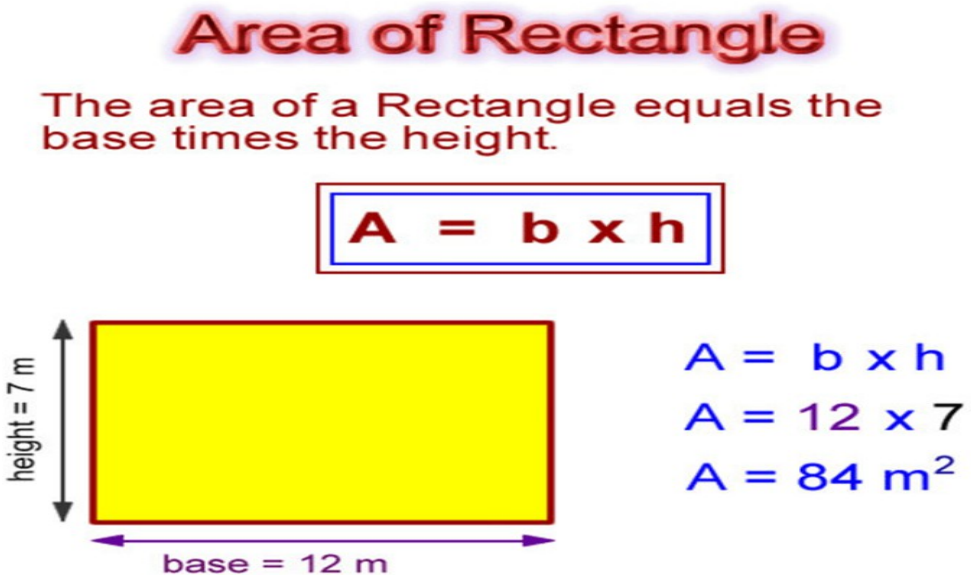
$\angle A$	angle A
$m\angle A$	measure of angle A
$\overline{AB}$	line segment AB
AB	measure of line
$\overleftrightarrow{AB}$	segment AB line AB
$\triangle ABC$	triangle ABC
$\square ABCD$	rectangle $ABCD$
$\square ABCD$	parallelogram $ABCD$

$\overrightarrow{AB}$	vector AB
	right angle
$\overline{AB} \parallel \overline{CD}$	Line AB is parallel to line CD.
$\overline{AB} \perp \overline{CD}$	Line AB is perpendicular to line CD.
$\angle A \cong \angle B$	Angle A is congruent to angle B.
$\triangle A \sim \triangle B$	Triangle A is similar to triangle B.
	Similarly marked segments are congruent.
	Similarly marked angles are congruent.

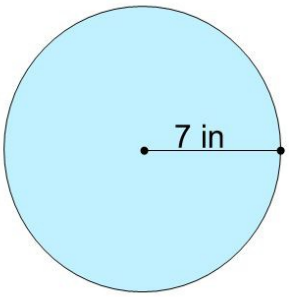
Examples:



Examples:



Example



Find the area of the circle.

Solution:

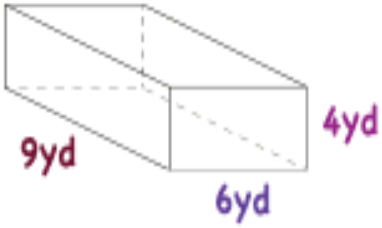
$A = \pi(7^2) = 49\pi \text{ in}^2$

or

$A \approx 153.94 \text{ in}^2$

Lesson 7.2 Area and Circumference

Find the Volume



$V = Bh \quad (B = l \cdot w)$

$V = l \cdot w \cdot h$

$V = 9 \cdot 6 \cdot 4$

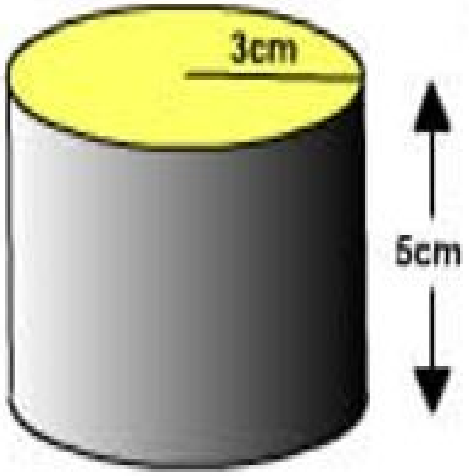
$V = 216$

$l = 9\text{yd}$

$w = 6\text{yd}$

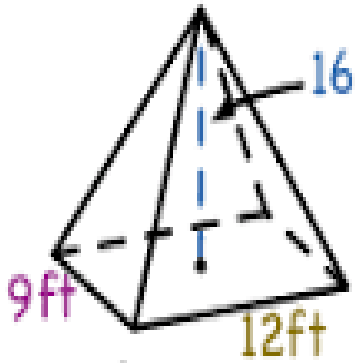
$h = 4\text{yd}$

Volume of cylinders



$$\text{Volume} = \pi r^2 h$$
$$= \pi \times 3^2 \times 5$$
$$= \pi \times 9 \times 5$$
$$= 141.37 \text{ cm}^3$$

Find the Volume:



$V = \frac{1}{3}Bh$

$B = (L \times W)$

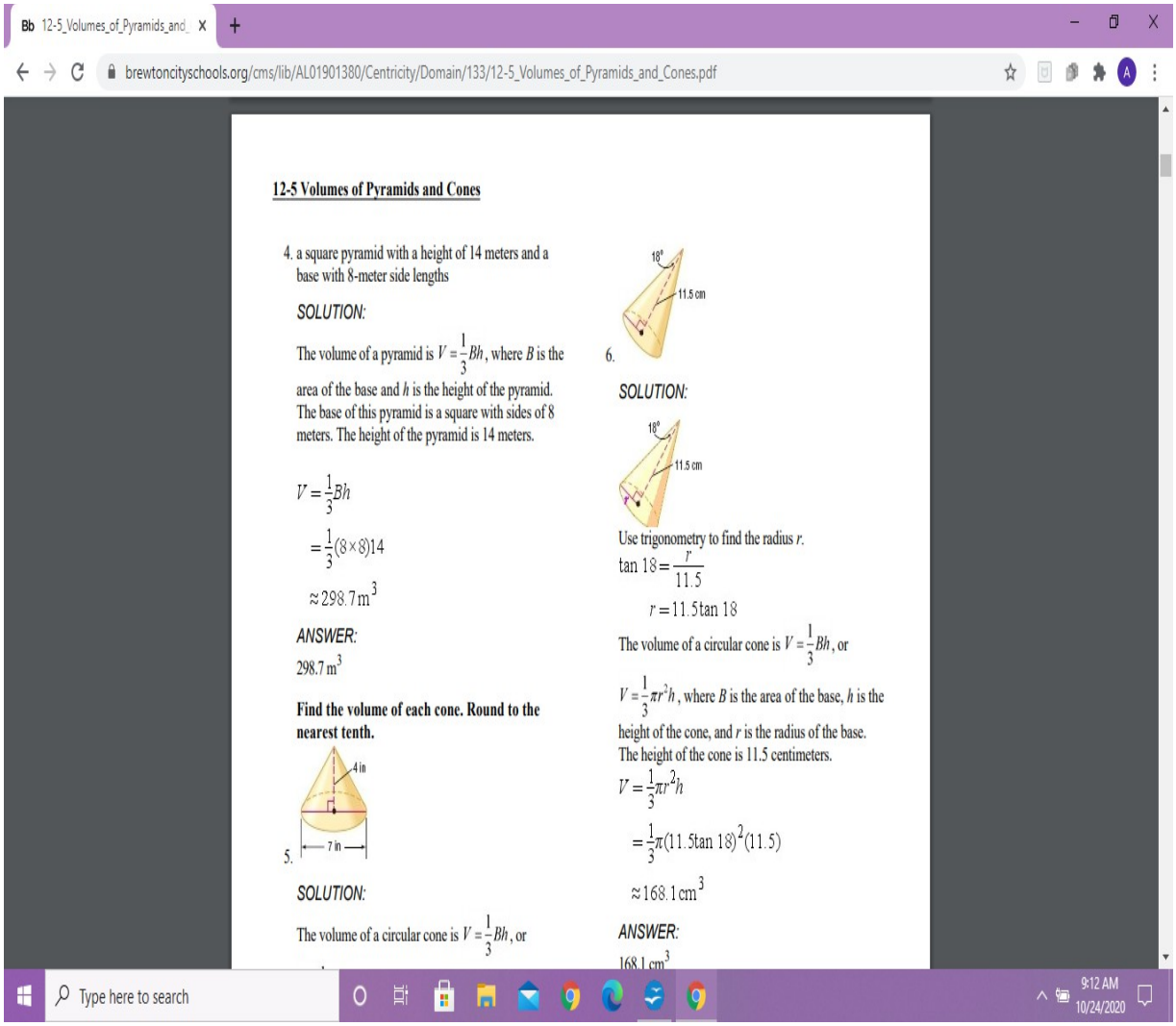
L=12ft

W=9ft

h=16ft

$$V = \frac{1}{3}(L \times W)h = \frac{1}{3}(12 \bullet 9)16 = \frac{1}{3}(108)16$$

$$V = \frac{1}{3}(1728) = \frac{1728}{3} = 576$$



12-5 Volumes of Pyramids and Cones

4. a square pyramid with a height of 14 meters and a base with 8-meter side lengths

SOLUTION:

The volume of a pyramid is $V = \frac{1}{3}Bh$, where B is the area of the base and h is the height of the pyramid. The base of this pyramid is a square with sides of 8 meters. The height of the pyramid is 14 meters.

$$V = \frac{1}{3}Bh$$
$$= \frac{1}{3}(8 \times 8)14$$
$$\approx 298.7\,\text{m}^3$$

ANSWER:

$298.7\,\text{m}^3$

Find the volume of each cone. Round to the nearest tenth.

5.

SOLUTION:

The volume of a circular cone is $V = \frac{1}{3}Bh$, or

6.

SOLUTION:

Use trigonometry to find the radius r.

$$\tan 18 = \frac{r}{11.5}$$
$$r = 11.5\tan 18$$

The volume of a circular cone is $V = \frac{1}{3}Bh$, or

$V = \frac{1}{3}\pi r^2 h$, where B is the area of the base, h is the height of the cone, and r is the radius of the base. The height of the cone is 11.5 centimeters.

$$V = \frac{1}{3}\pi r^2 h$$
$$= \frac{1}{3}\pi(11.5\tan 18)^2(11.5)$$
$$\approx 168.1\,\text{cm}^3$$

ANSWER:

$168.1\,\text{cm}^3$

Subject: Social Studies (456 - 459) and watching a Video

The US Federal government is made of three branches, which are:

- Executive Branch
- Legislative Branch
- Judiciary Branch

These branches are to protect the rights' of the citizens, and to maintain the balance/limit of its power.

Executive - Carries out the laws (president, vice-president, cabinet, federal agencies)

Legislative – Consists of two houses (Congress) the Senate and the House of Representatives – Make the laws.

Judiciary – Federal court system, Supreme Court

Exercise Practice

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KSE51/KS11 – Lesson # 7

Name:_____
Professor Toro

Writing/Reading

Based on yesterday's class lesson. Word Choice and Defining Word Content. Write a story using the concepts of vivid words, figurative language in your story. Remember to follow the guidelines taught in class. ***Make sure it's your original work.***

The topic you will write about is “Sacrifices.”

Science

Answer the following questions about the Periodic Table, Elements and Atoms.

1. What is the importance of the Periodic Table? Explain in detail.

2. What is the difference between homologous and heterogeneous mixtures? Give at least 5 examples.

3. Explain in detail how an element can lose or gain an electron. What are they known as?

4. What is the difference between a substance, a solution and a mixture?

5. Explain how elements in the Periodic Table are classified.

6. Dimitri Mendeleev created the Periodic Table. Who were other scientists who contributed the the structure of atoms? Write a brief summary.

7. What is the difference between atomic mass and atomic weight?

8. What are valence electrons, covalent bonds? Explain how they work on elements.

Math – Concepts: Area, Perimeter, Circumference, Volume Pyramids and Cones. (Problem Solving)

1. How many ways can eight squares 2 cm on a side be arranged to form a rectangle with a perimeter of 24 cm?

2. Twelve liters of water are needed to irrigate each hectare of a cornfield 2.75 hm wide and 3.5

hm long. How many liters will be used to water the entire field?

3. How many square meters of canvas are needed to make a triangular sail 7 meters along the base and 6 meters high?

4. A metal pipe has an outside diameter of 40 cm. If the metal is 6 cm thick, find the circumference of the pipe.

5. Find the volume of a box 78 in. long, 2 ft wide, and 56 in tall.

6. Mike and Bob pitched a pyramid-shaped tent that covered an area of 11 square yards. If the tent was 1.5 yards high, what was its capacity? (volume)

Social Studies

Essay Questions. ***Make sure it's your original work.***

1. Define Federalism and explain its role in the American government?

2. How do the principles of checks and balances influence the constitutional process for appointing public officials?

3. Explain how a Bill becomes a law? Which is the branch in charge? Explain the process on how a Bill becomes a law.