ነዋይ ቻሌንጅ አካዳሚ ቁጥር 1

2012 ዓ.ም የትምህርት ዘመን

ሁለተኛ መንፈቅ ዓመትመለማመጃ - 3

ስም: _____ክፍል 12ንውስክፍል: ___ቁጥር: ___

ቀን:_____ ውጤት% የት/ት ዓይነት: አማርኛ

መመሪያ 1፦ የሚከተሉት ጥያቄዎች ትክክለኛውን ሐሳብ ከያዙ እውነት የተሳሳተ ሐሳብ ከያዙ ደግሞ ሐሰት በማለት በተሰጣችሁ የመልስ መስጫ ቦታ ላይፃፉ።

_____**1.**በክርክር ወቅት የተከራከረውን ወገን ሐሳብ ያለማስረጃ ውድቅ ማድረግ ተገቢ አይደለም።

_____**2.**በውይይት ወቅት የራሳችን ሀሳብ ተቀባይነት እንዲያገኝ በሌሎች ላይ ጫና ማድረግ ተገቢ ነው።

_____**3**.ገፀባህሪያት ግጭት ውስጠ ከመግባታቸው በፊት በነበሩበት አቋም ግጭቱ ሲቋጭም ይቀጥላሉ።

_____**4.**የልብወለድ ግጭት አንዳንዴ በውኑ ሊያጋጥም የማይችል ሊሆን ይችላል።

_____**5**.ሰብአዊነት ጠባብ ወገንተኝነት ሳይኖርበት በየትኛውም ዓለም ለሰዎተና ለእንስሳት የሚፈጸም በጎተግባር ነው።

መመሪያ 2፦የሚከተሉትን የምርጫ ጥያቄዎች በጥሞና ካነበባችሁ በኋላ ትክክለኛ መልስ የያዘውን ሆሄ በመምረጥ በመልስ መስጫ ስፍራ ፃፉ።

_____6."ሕብረተሰቡ ጥፋተኞችን በማጋለጥ ከፖሊስ ጐን እንዲቆምና ትብብር እንዲያደርግ ተጠየቀ" በዚህዓ.ነገር ጐልቶ የሚታየው ሰዋሰዋዊ ስህተት የትኛው ነው?

ሀ. የተሳቢእናየግስአለመጣጣም ለ.የሐረግአለመዛመድ

ሐ. ስህተትየለውም መ. የባለቤትእናየግስአለጣጣም

_____7."ፍርሀት ፤ ይሉኝታ የመውደቅ ወዩልኝ እና ችኮላ በሕሊናው መሰላል ተክለው ይወጡበት ይወርዱበት ጀመር።"በዚህዓ.ነገር ላይ ጐልቶ የሚታየው የዘይቤ አይነት የትኛው ነው?

ሀ. ሰውኛዘይቤ ለ.ተለዋጭዘይቤ ሐ. ግንትዘይቤ መ. አያዋዘይቤ

_____**8**.ከሚከተሉት መካከል የግጭት ባህርይ ያልሆነው የትኛው ነው?

ሀ. ተመጣጣኝ ለ.ፍልሚያ ሐ. ውስብስብነት መ. ነጠላውጤት

_____**9**."ሰነፍ" ከዚህ ቃል ጋር በፍቺ የሚስማማው ቃል የትኛው ነው?

ሀ. ብስና ለ.ረኺጥ ሐ. ባተሌ መ. ልም

_____**10**."የባላገር ቁንጮ አላቸው". የተሰመረበት ቃል ፍቺ ምን አይነት ነው?

ሀ. እማሬአዊ ፍች ለ. ምስጢራዊ ፍቺ ሐ. አውዳ ፍቺ መ. ፍካሪያዊ ፍች

_____**11** ከሚከተሉት መካከል የልቦለድ ግጭት የበለጠ ልብ የሚሰቅለው በየትኛው የግጭት ደረጃ ነው?

ሀ. ጡዘት ለ.ውጤት ሐ.ፍልሚያ መ. ተመጣጣኝነት

_____**12**.ከሚከተሉት መካከል ውይይት እና ክርክር በጋራ የማይኖራቸው ባህርይ የትኛው ነው?

ሀ. የሌሎችን ሀሳብ በጥሞና ማዳመጥ ለ.ተገቢ የሆኑ ጥያቄዎችን መጠየቅ

ሐ. ሐሳብችን በማስረጃ ማስደገፍ መ. የሌሎችን ሐሳብ በማስረጃ ውድቅ ማድረግ

_____**13**."ጋራ ሸንተረሩ ፍረዱኝ።"በዚህ.ነገር ጎልቶ የሚታየው ዘይቤ የትኛው ነው?

ሀ. አንቶኔ ዘይቤ ለ. ሰውኛ ዘይቤ

ሐ. ግነት ዘይቤ መ. አነፃፃሪ ዘይቤ ሰ. ተለዋዋጭ ዘይቤ

_____**14**.ከሚከተሉት መካከል ስለ ግጭት የተሳሳተ ሀሳብ የያዘው የትኛው ነው?

ሀ. ግጭት እንዲከሰት አስገዳጅ ሁኔታ መኖር አለበት

ለ. የልቦለድ ግጭት በገሀዱ ዓለም ሲያጋጥም የሚችል መሆን አለበት

ሐ. ወደ ግጭት ውስጥ የሚገቡት ገፀ-ባህርያት የሰፋ መበላለጥ ሲኖራቸው

መ. የግጭት መቋጫ ጡዘት ይባላል።

_____**15**."አንዳንዴ እየተፍረገረገ እንደ ሚለማመጥ ድመት መሆንህ ያስተዛዝባል በዚህ.ነገር ውስጥ ጎልቶ የሚታየው የዘይቤ አይነት የትኛው ነው?"

ሀ. አነፃፃሪ ዘይቤ ለ. ግነት ዘይቤ ሐ.ሰውኛ ዘይቤ መ. ተለዋዋጭ ዘይቤ

_____**16**."ሲመሽ"እንደሸንቁር በርሜል ያፈሳል። በሚለው ዓ.ነገርቅጽል ------- ነው

ሀ. በርሜል ለ.ሸንቁር ሐ.ሲመሽ መ. መልሱአልተሰጠም

_____**17**.ከሚከተሉት መካከል ስህተት የሌለበት ዓ.ነገር የትኛው ነው?

ሀ. ከበደ መብላትና አጠጣጥ ያውቃል

ለ. ብዘረዝርላችሁ ታሪኩ ረጅም ስለሆነ አያልቅም።

ሐ. ለተማሪዎች ከሚያስፈልጋቸው አንዱ የተሟላ ቤተመጽሐፍ ነው።

መ. መልሱአልተሰጠም

_____**18**."የህብረት ስራ ማህበሩ የቡና መጋዘን አፈረሱት" በዚህ.ነገር የሚስተዋለው ሰዋሰዋዊ ስህተት የትኛው ነው?

ሀ. የቀጥተኛተሳቢ/-ን/መግደፍ ሀረግ አለመዛመድ

ሐ.የተሳቢ እና የግስ አለመጣጣም መ. ዓ.ነገሩስህተት የለውም

_____**19**."ጐባን" ከዚህ ቃል ጋር በፍች የሚስማማው የትኛው ነው?

ሀ. አያት ለ.ጣውንት ሐ.ውሽማ መ. ምራት

_____**20**."ፍካሬያዊ" በዚህ ቃል ላይ ያለው ቅጥያ ሞያ ምንድን ነው?

ሀ. ስም መስራችነት ለ. አገናዛቢ አፀፋነት ሐ.እምርነት መ.ቅጽል መስራችነት

Name: _____ Grade **12** Section: _ __ R.No: _ __
Date:_____ ___ Value % Subject: **biology**

Give Short Answers for the following questions

1. Explain:
   - Directional selection
   - Stabilizing selection
   - Disruptive selection
2. What are:
   - Allopatric speciation
   - Sympatric speciation
3. What are the differences among:
   - Seasonal isolation
   - Temporal isolation
   - Behavioral isolation
4. What are the similarities and differences between:
   - Polyploidy cells
   - Tetraploid cells
5. Explain:
   - Divergent evolution
   - Convergent evolution with examples
6. Write the evolutionary tree of humans and apes
7. What the Beatles song was playing at the discovery of Lucy fosil?
8. Who discover the fossil of Lucy?
9. Say something about Lucy's:
   - Fossil date
   - Found at the place called
   - Found in E.C
   - How the fossil is completed in %
   - Weight
   - Height
   - Brain size 1
10. About Ardy:
    - Discovered in E.C
    - Place of discovery
    - How old
    - Species name
    - Common ancestor between
11. What is the advantage of having bigger brain for humans than other apes?
12. Are we still evolving? Give some reasons if we are or not.
13. Explain about the migration of modern human and write the starting point of the migration.
14. Explain:
    - African(negroid) features
    - Eurasian(Caucasoid) features
    - East Asian(mongoloid) features
15. Explain the hominid evolution in short

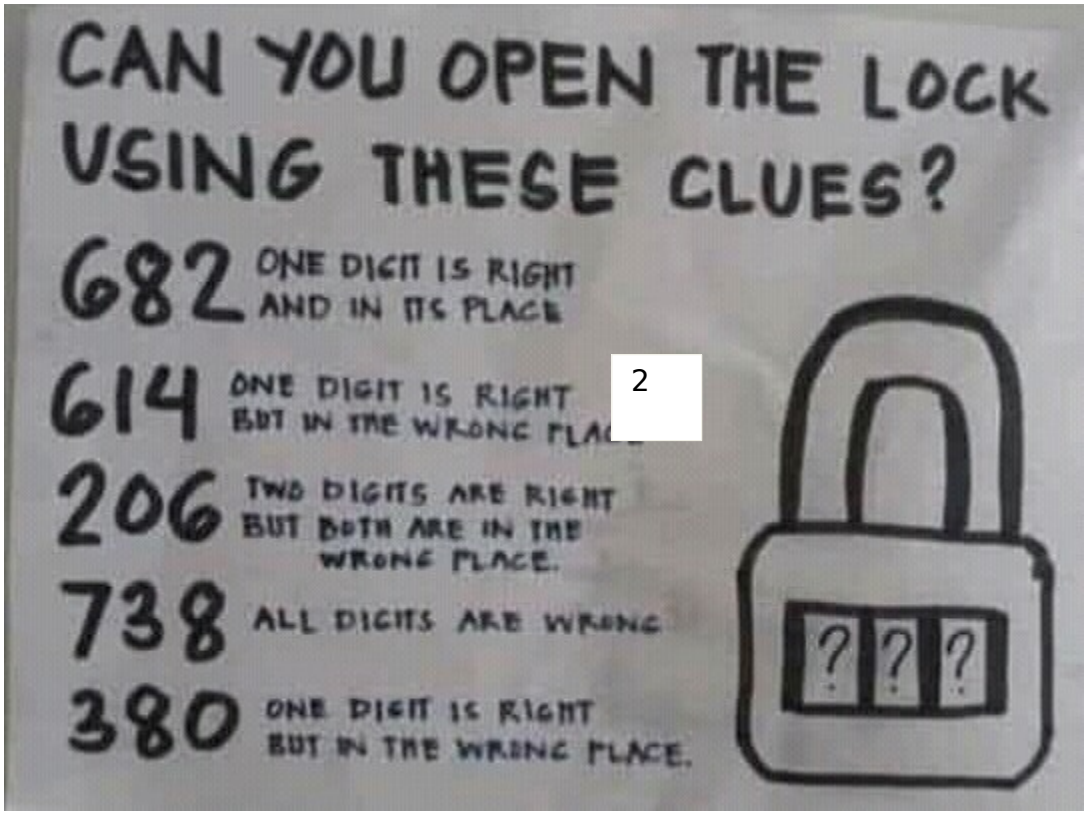
Define the following terms

16. Bipedalism
17. Homo sapiens
18. Homo erectus
19. Lorises
20. Isthmus

BONUS

What are the similarities and differences among COVID-19 and HANTAVIRUS?

Write the abbreviations of COVID-19.



Try it if you are smart

Set by: Mikiyas A.

Name: _____ Grade **12** Section: _ __ R.No: _ __
Date: _____ ___ Value **%** Subject: **G. Business**

I. Answer the following questions accordingly.

1. Write the difference between Ad valorem and specific tariff.

_____

_____

_____

_____

2. What is customs surcharge?

_____

_____

_____

3. Write the different types of bill of lading.

a. _____
b. _____
c. _____
d. _____

4. Write the four reasons against trade restrictions.

a. _____
b. _____
c. _____
d. _____

5. Write two reasons for special procedure in foreign trade.

a. _____
_____
_____

b. _____
_____
_____

6. Write the five non- tariff trade restrictions. 1

a. _____
b. _____
c. _____
d. _____
e. _____

7. Explain foreign trade

_____
_____
_____
_____

8. What is the difference you examine from your text book about the professional athlet and the trade? Explain in brief.

_____
_____
_____
_____
_____
_____
_____
_____

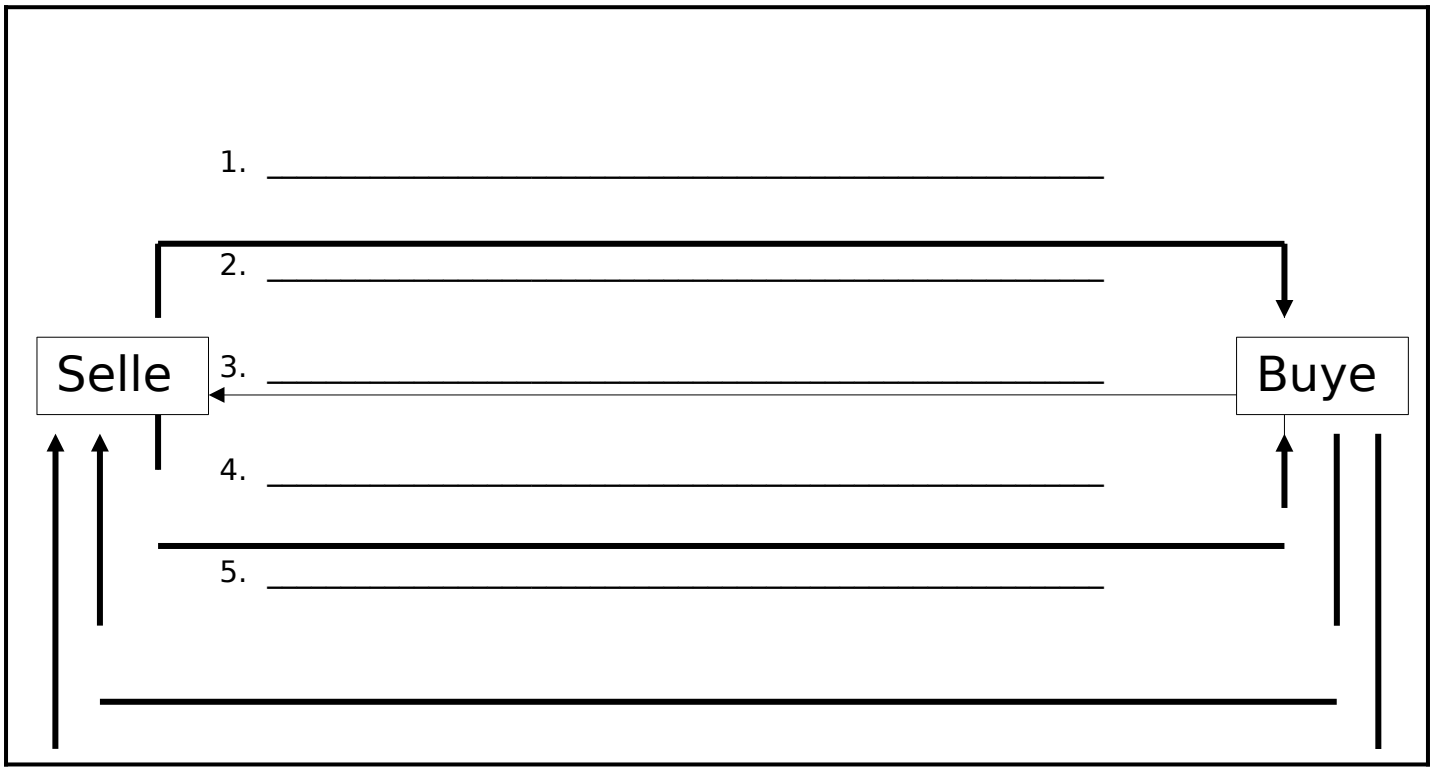
9. Define and explain:

a. Trade_____
_____

b. Enquiry _____
_____

c. Quotation _____
_____

II. Write the documents that are used in business letters transaction on the following figure.



III. Fill the blank spaces with appropriate words or phrases.

1. _____ is a trade, which is beyond the national boundaries.

2. _____ is the reduction of the value of a nations currency relative to the currencies of other countries.

3. _____ is a receipt for goods carried by air and often referred to as an “Air consignment note”
4. _____ method is used as method of payment in foreign trade when the buyer is unknown. 3

5. _____ provide information to customers and other middlemen.
6. _____ provides a means through which payments for purchasing and selling of foods can be made.
7. _____ are the occurrence of events or of conditions which result in exchange of goods and services.
8. _____ trade consists of buying and selling of goods and services within the boundaries of a country.

9. _____ trade consists purchasing of foreign goods for home consumption.
10. A nation’s _____ is the total flow of money in to the country minus the total flow of money out of the country.
11. _____ is the total value of export minus the total value of import.

Set by

Yared T.

Name: _____ Grade **12** Section: _ __ R.No: _ __
Date:_____ ___ Value **%** Subject: **chemistry**

1. **Calculate E^0_{cell},E_{cell} and** ΔG(in KJ) for the cell reaction

$Al(s) + Ni^{2+}(0.80M) \rightarrow Ni(s) + Al^{3+}(0.020M)$

(Hint, use the Nernest equation in your text book page 202-203)

2. For the reaction

$Cu^{2+}(aq) + Ni(s) \rightarrow Cu(s) + Ni^{2+}(aq)$

Calculate the value of equilibrium constant

(Hin, first find **E^0_{cell} using Table 4.2in your text book and applying Nernes equation you can find K)**

3. **Is the above reaction spontaneous?**

(Hint; criteria for spontaneity a.$E^0>0$ b. $\Delta G^0<0$)

4. Which of the given reactions can be reduced by Fe?

(**E^0 for** $Fe^{2+}/Fe = -0.45V$)

A) $Ni^{2+}(aq) + Fe(s) \rightarrow Ni(s) + Fe^{2+}(aq)$

B) $Mg^{2+}(aq) + Fe(s) \rightarrow Mg(s) + Fe^{2+}(aq)$

(Hint considering the iron as oxidation half reaction if the**E^0_{cell} is positive w can say is reduced by iron and ifE^0_{cell} is Negative cannot be reduced b iron)**

5. The cell potential of

$Cd/Cd^{+2}(aq,0.01M)//\ Fe^{+2}(aq,?M/Fe^{+3}(aq,1.0M)$

Was measured as 1.53V.What is the molar concentration of theFe^{+2} ions in the cell?

6. Explain the difference between a dry cell and a lead storage battery. (Refer in you text book page 205-207)

7. Describe briefly about leclanchce cell and lead storage battery and write thei anode, cathode, electrolyte and rechargebility?.(Refer in your text book page 205 207)

8. Explain the negative effects of corrosion? (Refer in your text book page 205-207)

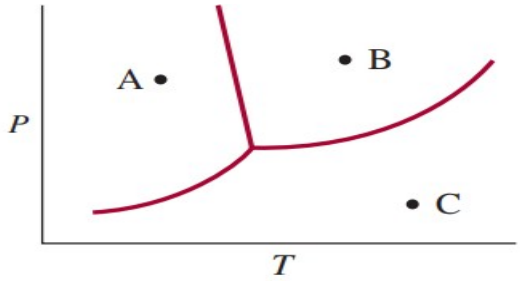
9. Describe how green plants and animals incorporate carbon atoms from atmospheri carbon dioxide gas? (Refer in your text book page 221-226)
10. What is the difference between nitrogen fixation and denitrificati 1 Refer i your text book page 227-228)
11. What makes the phosphorus cycle different from carbon and nitrogen cycle? (Refer in your text book page 225-230)

For questions from 12---21 refer your textbook of chapter 5

12. Defne mineral, ore, and metallurgy.
13. List three metals that are usually found in an uncombined state in nature and three metals that are alwaysfound in a combined state in nature.
14. Write chemical formulas for the following minerals:
(a) calcite, (b) dolomite, (c) fl uorite, (d) halite,(e) corundum, (f) magnetite, (g) beryl, (h) galena
15. List the common ores of magnesium and calcium. How are the metals magnesium and calcium obtainedcommercially?
16. Describe a laboratory and an industrial preparationof nitrogen gas.
17. What is meant by nitrogen fixation? Describe a process for fixation of nitrogen on an industrial scale.
18. How is sodium prepared commercially?
19. Explain the industrial preparation of Calcium, Tin, Lead, Zinc, Chromium and Silcon.
20. Explain and state the steps to be followed in industrial production of ammonia,Nitric acid Sulphuric acid and DAP.
21. ist and explain the general steps in ore concentration process.

From Grade 11 Chemical equilibrium

22. A phase diagram of water is shown at the end of this problem. Label the regions. Predict what would happen as a result of the following changes: (a) Starting at A, we raise the temperature at constant pressure.(b) Starting at C, we lower the temperature at constant pressure. (c) Starting at B, we lower the pressure at constant temperature.



23. What is the law of mass action?

24. Briefly describes the importance of equilibrium in the study of chemical reactions.

25. Write equilibrium cor 2 expressions for Kc, and for KP, if applicable, for the following processes.

(a) $2CO_2(g) \rightleftharpoons 2CO(g) + O_2(g)$

(b) $3O_2(g) \rightleftharpoons 2O_3(g)$

(c) $CO(g) + Cl_2(g) \rightleftharpoons COCl_2(g)$

(d) $H_2O(g) + C(s) \rightleftharpoons CO(g) + H_2(g)$

(e) $HCOOH(aq) \rightleftharpoons H^+(aq) + HCOO^-(aq)$

(f) $2HgO(s) \rightleftharpoons 2Hg(l) + O_2(g)$

26. The equilibrium constant (Kc) for the reaction.

$2HCl(g) \rightleftharpoons H_2(g) + Cl_2(g)$

is 4.17 x 10^{-34} at 25°C. What is the equilibrium constant for the reaction

$H_2(g) + Cl_2(g) \rightleftharpoons 2HCl(g)$

at the same temperature?

27. Consider the following equilibrium process at 700°C

$2H_2(g) + S_2(g) \rightleftharpoons 2H_2S(g)$

Analysis shows that there are 2.50 moles of H2, 1.35 x10^{-5} mole of S_2, and 8.70 moles of H_2S present in a12.0L fl ask. Calculate the equilibrium constant Kc for the reaction.

28. What is KP at 1273°C for the reaction

$2CO(g) + O_2(g) \rightleftharpoons 2CO_2(g)$

ifKc is 2.24 x10^{22} at the same temperature?

29. Consider the following reaction:

$N_2(g) + O_2(g) \rightleftharpoons 2NO(g)$

If the equilibrium partial pressures of N_2, O_2, and NO are 0.15 atm, 0.33 atm, and 0.050 atm, respectively, at 2200°C, what is KP?

30. for the synthesis of ammonia

$N_2(g) + 3H_2(g) \rightleftharpoons 2NH_3(g)$

the equilibrium constant Kc at 375°C is 1.2. Starting with [H2]= 0.76 M, [N2]= 0.60 M, and [NH3]=0.48 M, which gases will have increased in concentration and which will have decreased in concentration when the mixture comes to equilibrium?

31. At a certain temperature the following reactions have t nstants shown:

$$S(s) + O_2(g) \rightleftharpoons SO_2(g) \qquad K_c' = 4.2 \times 10^{52}$$
$$2S(s) + 3O_2(g) \rightleftharpoons 2SO_3(g) \qquad K_c'' = 9.8 \times 10^{128}$$

Calculate the equilibrium constant Kc for the following reaction at that temperature:

$$2SO_2(g) + O_2(g) \rightleftharpoons 2SO_3(g)$$

32. For the reaction

$$H_2(g) + CO_2(g) \rightleftharpoons H_2O(g) + CO(g)$$

at 700°C, Kc = 0.534. Calculate the number of moles of H_2 that are present at equilibrium if a mixture of 0.300 mole of CO and 0.300 mole of H_2O is heated to 700°C in a 10.0-L container.

33. Explain Le Châtelier's principle. How can this principle help us maximize the yields of reactions?

34. List four factors that can shift the position of an equilibrium. Only one of these factors can alter the value of the equilibrium constant. Which one is it?

Name: _____ Grade **12** Section:_ __ R.No: _ __
Date:_____ ___ Value **%** Subject: **civics**

***Refer from page 105 up to 120**

I. Write down the correct answer for the following questions

1. Currently mankind has destroyed a substantial portion of the natural forests in the world. What is the impact of this situation on our environment?
2. What does GDP represent and what is its relationship with saving?
3. One of the basic concepts of a market economy is "comparative advantage" explain about this concept.
4. What are the reasons behind the fact that Ethiopia is the poorest country in the world?
5. List down some of the essential materials that Ethiopia imports?
6. The most common measurement of the price level is consumer price index(CPI). How can you explain (CPI)?
7. What are the implications of inflation on a family and on a nation?
8. Credit unions are local monetary organizations. What is their primary concern?
9. Write down some of the policies of the international monetary fund (IMF).
10. The success of an organization depends on its leader. So what does leadership mean?
11. In democracy, what are the qualities of effective leadership?
12. Active community participation requires effective leadership who has personal _____.
    What are the characterstics of the members of civic association?

13. What do you understand about freedom of press?
14. What are the main concepts that are indicated under article 29 of the FDRE constitution?
15. What is the benefit of knowledge for you and your society?
16. How can COVID 19 transfer from a host to another person, and what are the preventive methods?
17. What are the criteria for one disease to qualify as pandemic disease or not?
18. What is the benefit of telling the truth in one society?
19. What is the role of the Ethiopian women lawyers association (EWLE)?

Name: _____ Grade **12** Section: _ __ R.No: _ __
Date:_____ ___ Value % Subject: **English**

Part I. Grammar

I. Choose the best alternative to complete the sentences.

1. China reported that more than three thousand people died from Corona virus; however, more people ------- as others suspect.
   A. died B. had died
   C.could die D. may have died.
2. Students should develop their creativity ------ they stay at home during this state of emergency.
   21. in case B. just in case
   C. while D. after
3. The death toll ------ to be more than one million according to WHO's official statistics.
   _____2. is reported B. has reported
   22. reports D. reported
4. Efforts should be stepped ------ to reach students on line as it helps them to learn at their convenient time.
   A. in B. on C. out D. up
5. I felt something hit me on my back; it ---- a rubber bullet as the police were firing at the crowd to disperse them.
   A. can have been B. must have been
   C. can't have been D. mustn't have been
6. The government called ----- each citizen to lend a hand to those who are in need.
   A. on B. off C. out D. for
7. What ---- to score a goal at the last minute just before the referee blows the whistle?
   A. does it look B. is it like C. does it look like D. it is like

8. On condition that people stay at home, many lives will be saved that ---- die otherwise.
   A. will B. must C. would D. can
9. A country needs heros ----- come at the front in the fight against the new killer virus.
   A. which B. whose C. who D. whom
10. ----- young Ethiopians are developing new softwares that will make life easy for users.
   A. Inventional B. Inventor
   C. Inventive D. Invention

Part II. VocabularyChoose the letter that contains th propriate word/phrase to complete the sentences.

11. Until the pandemic is fully under control, the stay at home measures should not be ----

   A. softened B. hardened C. relaxed D. employed

12. Car manufacturing industries have ------ most of their employees as car sales have shrunk.
   A. laid off B. laid on C. laid in D. laid up
13. The sunny weather is ----- many people to go out to the beach despite the risk of catching Corona.
   A. attracting B. inviting C. calling D. tempting

14. In such times of history, governments wouldn't be undemocratic if they took ----- measures that even restrict freedom of movement.
   A. stringent B. lenient C. simple D. complicated

Part III: Writing

A. **read each piece of writing, and identify the type of essay from which they are probably taken.**

15. "Should there be a complete lockdown? No, in a country where many are daily laborers."
16. 16. "Her face was pale. She dragged her feet sluggishly towards the patient, and she bent her bach as if she had been made of a wood."

17. “On its entry to respiratory organs, it hijacks a cell. The immune system releases fighters to attack the intruder.”
18. “Mr. Charles lives on the 15th floor. One day, his children complained about being locked up for a long time. Then he decided to take them out to the closest park. However, they quarreled over going out first…”

10. **Choose the best alternative according to the instructio** 2

19. Which one is correctly punctuated?
    A. We chat on line; but we haven’t met physically.
    B. We chat on line, however; we haven’t met physically.
    C. We have to adapt to the new lifestyle, because there is no option.
    D. We have to adapt to the new lifestyle because there is no option.
20. Which one is correctly punctuated?
    A. Dani, what a good news you’re telling me?
    B. Dani what a good news you’re telling me?
    C. Dani, what a good news you’re telling me!
    D. Dani what a good news you’re telling me!

By
Gashaw

Name: _____ Grade **12** Section: _ __ R.No: _ __
Date:_____ ___ Value **%** Subject: **geography**

Direction: Attempt all questions after you read grade 11 geography text book from page 101 to157.

Part one: Choose the best answer from the suggested options.

1. The northern and southern most points of Africa are ,respectively at:
   11. Cape Verde and Cape Blanc C. cape Verde and Cape Agulhas
   12. Cape Blanc and Cape Agulhas D. cape Agulhas and Cape Blanc
2. Africa comes closest to Europe along:
   A. the Strait of Gibraltar C. the Mediterranean Sea
   B. the Suez Canal D. the strait of Bab-el Mendeb
3. Which of the following continents has the smallest percent area share from the total world?
   c. Antarctica C. Australia and Oceania
   d. Europe D. South America
4. Which of the following is **not true** about the shape of a given country?
   A. It is the geographical appearance of a place
   B. It has an impact on the economic integration of the country
   C. It has nothing to do with country's security and defense
   D. The unbroken coast line discourages external communication

5. Which of the following rivers is part of Atlantic Ocean drainage system?
   A. Volta B. Nile C. Wabishabelle D. Awash
6. Which of the following best explains the common characteristics of African rivers?
   A. Waterfalls B. Seasonal fluctuation C. Navigable D. A and B
7. Which of the following **is true** about equatorial climate?
   A. It's average temperature is about 15^0C annually
   B. It's annual rainfall is less than 1000mm
   C. It has less than 3^0c annual temperature range
   D. Cyclonic rainfall type is dominant in the region
8. Where is the location of ITCZ during*Bega* season in Ethiopia?
   A. Around Equator C. around tropic of Capricorn
   B. Around tropic of Cancer D. North of equator
9. Which of the following areas experience Highland climate?
   A. Cape province C. High veld
   B. Atlas mountain D. Western and Central Africa
10. Identify regions of Africa in rank order from the largest to the small 1 ze.
   1. South, North, West, East & Central
   2. North, central, eastern, western & southern
   3. North, south, west, east & central
   4. Western, southern, eastern, northern& central
11. Which of the following two regions in Africa have high population density in the continent?
   A. Northern and Southern Africa C. Eastern and Western Africa
   B. Northern and Central Africa D. Eastern and Southern Africa
12. Which of the following **is true** about geological history of Africa?
   A. Heavy erosions affected many places in Africa
   B. Sahara was flooded by water during Paleozoic era
   C. Red sea and Mediterranean sea were formed during the Mesozoic era
   D. East African rift valley was formed in the Quaternary period
13. The Inter-Tropical Convergence Zone in Africa:
   23. Is a high-pressure area between the trade winds and mid-latitude westerlies
   24. Is located on the equator in July
   25. Is a low-pressure area between tropical easterlies and equatorial westerlies
   26. Is located about 15^0N in January
14. Which of the following continents were once joined together in the past geological history of the earth, and at present covered by plateaus and plains ranking first and second interchangeably respective of both landforms?
   A. Asia and Africa C. south America and Asia
   B. Asia and north America D. Africa and S. America
15. The only young fold mountains in Africa are:

e. The Alps mts. C. The atlas mts.
f. The FutaJalonmts. D. The Drakensberg mts.

16. Which of the following branches of the Eastern Africa Rift valley system host the continent's highest block mountains?
A. Malawi Rift valley C. Eastern Branch
B. Western Branch D. Northern Branch

17. Which of the following controls of weather and climate has great impact in Atlas, cape Range and East African high lands?
e. Ocean currents C. Latitude
f. Altitude D. Distance from the sea

18. The distribution of temperature in Africa has seasonal variation. What makes this seasonal variation at most ignoring other factors?
A. The physical nature of the continent C. It's geological history
B. The role of ITCZ D. Distribution of water bodies

19. Which of the following **is** 2 about the distribution of rainfall in Africa?

A. Southeast winds are the cause of high rainfall north of the equator
B. In January northern Africa remains wet.
C. Guinea monsoon winds invade Africa north of equator during July and bring rainfall to the region
D. Winter is the wet season in all parts of Africa

20. Which of the following basin is the largest in the Inland drainage basin system?
A. Okavango C. Chad C. Awash D. Sudd

21. Identify the major non-Rift valley natural lakes from the following options.
A. Turkana, Kivu and Albert C. Victoria, Chad and Tana
B. Malawi, Edward And Kivu D. Meru, Tanganyika and Albert

22. Which of the following man-made lakes(Anthropogenic) is shared by two neighboring countries?
21. Akosombo B. Aswan C. Kariba D. Kaindji

23. Which of the following natural resources are at the center of attention in the international community due to the impact of Coronavirus pandemic?
A. Soil and Swamps C. Water and Air
B. Forest and Wild animals D. Birds and sea animals

24. Abay(Nile) is the natural resource of Ethiopia and one of its beautiful physiographic paradise shape the countries culture, politics, spiritual and historical balance. At present Ethiopia is constructing a dam to produce energy which is the most important element in the development of industries and urban centered economic activities. Lower course countries particularly Egypt is against such development in our country. Which of the following suggestions best help retain Ethiopia's position and drive her as a winner to meet its objective?

A. Ethiopia should be strong militarily and built high standard institutional capacity
B. All citizens should work hand in hand and protect their sovereignty collectively
C. Everybody should be aware of the social erosion designed by rival countries and mend the gap whenever happened with greater care and wisdom
D. All of the above

25. From what you heard, read and communicate with different sources, what do you learn about the strength and weakness of human race in the eyes of such invisible and mysterious virus? Have your ever think of an idea to overcome such problem? Do you think the current virus situation is a good opportunity for those that are equipped with gifted mind to solve the problem? If you are one of these people, where will be your focus area (topic)? Do you think previous Ethiopian wisdom and knowledge of medicine is part of the solution? What do we lack to fight coron[illegible]s at present in Ethiopian context? 3

Part II: Answer the following questions briefly (after reading grade 12 geography text book-chapter 4.

26. Compare the population pyramids of Ethiopia and Germany. What evidence from the population pyramids suggests that:
    A. People have a lower life expectancy in Ethiopia?
    B. There is a high birth rate in Ethiopia.
27. Explain the factors that can lead to an area or country having a low population density.
28. In the cities of the developing world, a large proportion of the population may live in slums. What are the possible reasons for this?
29. Describe the factors that cause people to move away from rural areas.
30. Describe the causes and effects of deforestation of tropical rainforest, including the effects on the natural environment (both locally and globally) and on people.

Name: _____ Grade **12** Section: _ __ R.No: _ __
Date:_____ ___ Value **%** Subject: **economics**

Page limit

Choose the best answer from the given alternatives

1. Which one of the following is the NOT the major role of government?

   A. Provision of public goods and social services

   B. Promoting efficiency

   C. Reducing poverty

   D. Increasing unemployment

2. Which one of the following is direct tax?

   A. Personal income tax B. Excise tax

   C. Value added tax D. Turn over tax

3. Income from sales of government asset is categorized under
   A. ordinary sources of revenue B. external assistances
   C. Capital revenue D. capital government expenditure
4. Capital government expenditures are

A. Expenses such as salaries of civil servants.

B. Repeated expenses on consumables.

C. Mostly financed from ordinary sources of revenue in developing countries like Ethiopia.

D. Mostly financed from ordinary sources of revenue in developing countries like Ethiopia.

5. Offsetting government budget deficit through external borrowing

A. Increases the national debt service burden. B. Creates demand – pull inflation.

C. Results in crowed out effect of private investment. D. Increases real interest rates.

6. A tax structure that decreases as taxable amount increases and increases as taxable amount decreases is called _____.

A. regressive tax C. Progressive tax

B. auto regressive tax D. proportional tax

7. A tax structure that is followed by the Ethiopian government is,
   A. proportional tax C. Progressive tax
   B. autoregressive tax D. regressive tax
8. The institutional frame work of the new government targeted on the following EXCEPT,

A. Rationalizing public expenditure B. Adjusting public sector salaries
C. Reducing new tax bases D. Limiting import exemption

9. In Ethiopia, regional governments are responsible for duties such as expansion of---------

A. Water and sanitation

B. Rural roads.

C. primary and secondary education

D. formulating fiscal and monetary policies.

10. What happens when both the supply and demand for computers increases simultaneously? The equilibrium ___.

A. price must increase and equilibrium quantity must decrease

B. price must increase and equilibrium quantity must increase

C. price and equilibrium quantity must increase

D. quantity must increase but equilibrium price could increase, decrease or remain constant

11. What do we call a product whose demand decrease, as the income of its consumers increases?

A. a substitute good C. an inferior good

B. a normal good D. a complementary good

12. One of the followin 2 **not** lead to a shift in the demand curve for bread;

A. A reduction in the price of another good that is a close substitute of bread.

B. An increase in the real income of the consumers of bread.

C. Change in people's tastes for bread

D. An increase in the price of bread.

13. If supply were to increase and demand to decrease simultaneously, in the new equilibrium we would expect,

A. a lower price and an indeterminate change in quantity

B. a higher quantity and a lower price

C. a lower quantity and an indeterminate change in price

D. a higher quantity and a higher price

14. If the government of a country announces a significant increase in the price of oil, what would you expect to happen to the demand of automobile?

A. the demand curve for automobile will shift inward

B. the demand curve or automobile will shift outward

C. demand curve for automobile will stay the same

D. one cannot tell

15. If two goods are complements, which of the following would most likely occur?

A. A rise in the price of one of the goods leads to a rise in the demand for the other

B. A rise in the price of one of the goods leads to a fall in the demand for the other

C. A fall in the price of one of the goods leads to a fall in the demand for the other

D. A rise in income leads to a fall in the demand for both goods

16. A movement along the supply curve of a product is caused by a/an

A. change in the price of inputs C. change in the price of a product

B. improvement in technology D. decrease in tax Imposed on the product

17. Which one of the following changes is **true** about the determinants of demand?

A. own price of a commodity cause a shift of the demand curve

B. income of the consumer causes a movement along the demand curve

C. own price of a commodity causes a movement along the demand curve

D. if the number of buyers in the market reduces the demand for that commodity would increase

18. A product offered by oligopolies is .

A. homogenous B. distinctive

C. differentiated D. either homogenous or differentiated

19. Which one of the following is **true** about the relationship of marginal revenue (MR) and average revenue (AR) of a pure monopolist?

A. MR is always above AR.

B. AR can be negative but MR is always positive.

C. Both MR and AR are downward slopping curves.

D. Both MR and AR are upward slopping curves.

20. Which one of the following features is **true** about a monopolistically competitive market structure?

A. There is single seller. B. There is considerable entry and exit barrier.

C. There is non-price competition D. Firms are interdependent.

21. If a competitive firm is producing a level of output for which marginal cost exceeds price

A. the firm must be earning economic profit.

B. the firm can increase its profit by increasing output.

C. the firm can increase its profit by decreasing output.

D. the firm is maximizing it's profit

22. To find its profit-maximizing output level, a firm should produce that level of output which equates,

A. AVC and MC B. MC and MC

C. TFC and TVC D. AFC and AVC

23. In which one of the following features are monopolistic competitive and perfectly competitive firms similar?

A. Having horizontal demand curves

B. Zero economic profit in the Short –run

C. Zero economic profit in the long-run

D. Relying on advertising to attract buyers to their products.

24. Which of the following is a **correct** statement about oligopoly markets?

A. There is no interdependence among firms in an oligopoly.

B. There is no non-price competition in an oligopoly market.

C. Products in an oligopoly market are always homogeneous.

D. Firms in oligopoly markets are highly interdependent.

25. Which of the following is NOT true in a perfectly competitive market structure?

A. Average revenue is greater than price.

B. Marginal revenue is equal to price.

C. Marginal revenue is equal to the average revenue.

D. Average revenue is equal to price.

26. Differentiated products are ---

A. Similar but not identical products.

B. Products with no close substitutes.

C. Products with enough close substitutes.

D. Identical products.

27. Which one of the following is **not** a cause for the emergence of monopoly power?

A. Exclusive knowledge of technology by a firm C. Patent right

B. Ownership and control of strategic raw materials D. Large size of market

28. Which one of the following is an assumption of a perfectly competitive market structure? 5

A. Existence of few dominant firms

B. Considerable entry and exit barrier

C. Existence of transportation cost

D. Perfect information or knowledge

29. A pure monopolist faces demand function of P=40- 4Q where P is Price and her cost function is given by TC= 8+Q2 where TC is Total Cost. The Maximum profit and corresponding level of output (Q) are respectively .

A. 72 and 4 B. 4 and 72 C. 24 and 4 Units D 4 and 24 Units

30. Consider a perfectly competitive firm that has: Total cost (TC) = 50/3Q3 – 150Q2 + 1000Q + 780 and Price (p) = 1000. What is the output level at which the profit level enjoyed by the firm will be the maximum?

A. 0 B. 2 C. 6 D. 15

By

Yared T.

Name: _____ Grade **12** Section: _ __ R.No: _ __
Date:_____ ___ Value **%** Subject: history

page range 267-292

I. **Answer the following Questions accordingly**

1. Mention four measures that were taken by Emperor Haile Selassie I after the Gojjam peasant rebellion was over
   _____3. _____
   _____4. _____
   _____5. _____
   _____6. _____
2. In the 1960's, many factors strengthened and radicalizedEthiopian students' demand. write down some of them
   A. _____
   B. _____
   C. _____
   D. _____
3. Mention some of the factors that made 1960's Ethiopian students to take the leading role of opposition?

A. _____
B. _____
C. _____

4. Write down some causes of the 1960s' and 1970s' Ethiopian Famine
   B. _____
   C. _____
   D. _____
   E. _____
5. What were some factors of the 1974 popularFrench Revolution?
   A. _____
   B. _____
   C. _____
   D. _____
6. Write down at least four reforms that were made by Military Junta(Derg)
   e. _____
   f. _____
   g. _____
   h. _____
7. Following its victory over the Somali aggression, the Derg gave priority for three basic problems it faced: What were these?
   5. _____
   6. _____
   7. _____
8. Mention at least four main factors for the down fall of Derg or Military Junta
   31. _____
   32. _____
   33. _____
   34. _____
9. Write down three features of the Ethiopian Peoples' Revolutionary Party(EPRP).
   A. _____
   B. _____
   C. _____
10. Mention at least three reforms that were made by Haile Selassie I to pacify the mass revolt of February 1974.
    g. _____
    h. _____
    i. _____
11. Compare and contrast the Bale and Gojjam peasant Rebellion movements of the 1960's

    _____
    _____
    _____
12. Explain about the 1991 fall of Derg and the Transitional period situations

    _____

_____

_____

13. Define the following words(Abbreviations)

A. PMAC_____

_____

B. MAAG_____

_____

C. EPLF_____

_____

D. ELF_____

_____

E. CELU_____

_____

F. PDRE_____

_____

G. OLF_____

_____

H. POMOA_____

_____

I. COPWE_____

_____

J. EPRP_____

_____

K. WPE_____

_____

L. EPRDF_____

_____

M. EPDM_____

_____

N. TPLF_____

_____

(From Grade 11for Grade 12) **Unit Nine**

14. Write down at least four characteristics of the Zemene Mesafinit.

35. _____

36. _____

37. _____

38. _____

15. Explain about Qallu, It was_____

27. _____

28. _____

29. _____

30. _____

16. List down some factors that accounted for the collapse of the Gada system

A. _____

B. _____

C. _____

D. _____

17. Write down at least four measures that were taken by Fasiledes after the 17th c civil war or after (1632)

C. _____

D. _____

E. _____

F. _____

18. Gonder attained its greatness and glorious day under the firs 3 e kings, mention the name and year of these kings.

C. _____

D. _____

E. _____

19. List some achievements of Gonderian period

C. _____

D. _____

E. _____

20. Mention at least three factors or causes of the Era of War Lord or Era of Princes

C. _____

D. _____

E. _____

Set by Tolesa W.

Name: _____ Grade **12** Section: _ __ R.No: _ __
Date:_____ ___ Value **%** Subject: **maths for n.S**

I. <u>Read each of the following questions carefully and work accordingly</u>

1. Is the following argument valid?[**Hint for questions number 1and 3 first represent each statement by letters and use either truth table or the rule of inference to check the validity if the truth table is tautology then the argument is valid otherwise not]**

   I pass the examination, if I study hard.

   I don't study hard.

   Therefore, I pass the examination.

2. Let p & q stands for the statement.

"Kaleab is intelligent" and "Henok is smart" respectively. Which of the following represent the statement "Henok is smart if Kaleab is intelligent?"

13. ¬p^q B. ¬pvq C. p^q D. ¬qvp

3. Show that the following argument is valid

   Production is high if rain continues.

   Rain does not continue.

   Therefore, either production is low or rain continues.

4. Suppose that $x^2+y^2+z^2+2x-6y=2(3-4z)$, represents Q sphere, where is the point Q (1,-1, 4) located relative to the sphere? (**Hint**compare the distance from the center of the sphere to each point with the magnitude of radius after you have written the sphere in standard form and gives your answer by saying inside, outside or on the sphere).
5. Suppose L is a line through the center of the sphere: $x^2+y^2+ (z-2)^2=9$. And intersects the sphere at the point R (1, 2, 4), then what is the cosine of the angle between the line L and the positive Z-axis? [**HINT** locate the point R in XYZ plane then form vector OR and extend the line segment from the center of the sphere to the point R and use dot product]

1

6. Let, A&B is the end points of a diameter of the sphere whose equation is: $x^2+y^2+ (z+2)^2=1$.

   If A (1, 0,-2), then the coordinate of B is [center of the sphere is the midpoint of the segment AB]
7. Let PQ be a vector with initial point P=(1, 5) and terminal point Q=(4, 0), if V=Xi+2j is parallel to PQ, then what is the value of X. [use the concept of parallel vectors]
8. If A (x, 0, 2), B (3, 0, 2) and C (2, √3, 2) are vertices of equilateral triangle in space, then what is the value of X? [**Hint** use the distance formula]
9. Let, the angle between vectors V= 2i-j+2k and PQ be 60^0 where P&Q are points in the space. If V.PQ=2 then what is the distance between the points P&Q?

10. If A and B be vectors in the space, such that A.B= -2 and B= 6i-7j+√15 k, and if Q is the angle between A&B, then what is the value of //A//?
11. Let Z be a complex number such that [3z/-4+3i] = (2-i) (2-i) then find the modulus of Z.
12. The values of X and Y that solves the equation (2x-yi) (3+i) = 20i are respectively ____&_____
13. In the set of complex number, what is the solution set of $Z^3=8$?
14. A polar form of the complex number: Z=1+√3i/1+i is _____
15. What is the value of Z, if $Z= (1+i)^{10}$?
16. What is the principal argument (Arg Z) of $(5+5i)^{11}$?
17. If $Z= \sqrt{2}(\cos(^{11}/_{2})+i \sin (\pi/2))$, then Z^3= _____
18. In the set of complex number, find the solution set of: $X^2-4x+5=0$.
19. Solve each of the following homogeneous system of linear equation using matrix method and identify the type of solution as

A, trivial solution B, non-trivial solution a, 3x+5y=0 b, 2x-6y=0

2x-4y=0

-x+3y=0

20. Identify whether the following systems of linear equations has: unique solution or infinite solution by showing your necessary steps.

A, x+3y=6 B, 2X-5Y=11 C, 8x-4y=16 D, x+y+2z=1

2x+6y=18 3X+Y=8 2x-y=4 x+2y+z=2

-2x-2y-4z=-2

21. for what values of K dose the system: kx+4y =5

9x+ky =2

Has A, unique solution

B, no solution

C, infinite number of solution

22. For nxn square matrix A which one is TRUE?

A, det (A) = - det (A^T)

B, if A is invertible, then det (A) =det (A^{-1}) k^n det (A)

C, if k is a non-zero constant, then det (KA) = k^n det (A)

D, if B is a matrix, obtained from A by interchanging of two raws of A, then det (B) = det (A)

23. Suppose A is a 3x3 matrix and B = $\begin{matrix} 0 & 4 & 1 \\ 5 & 0 & 6 \\ 0 & 4 & 2 \end{matrix}$

If the det (A) = 2, then det ($A^{-1}B^T$) = _____

24. What is the constant term and the coefficient of x^3 in the expansion of $(2x-1/x)^4$?

25. Find the 4^{th} term and in the expansion of $(2x^3-3y^2)^5$?

Name: _____ Grade **12** Section: _ __ R.No: _ __

Date:_____ ___ Value **%** Subject: **maths Social.S**

Dear students;

In order to do this worksheet please try to take notes, read and do examples from your mathematics text book on page 371 to 391.

Keep yourself from CORONA virus … and I wish you to remain safe and healthy

Daniel Abetew

PART I. CHOICE

1. A family buys 3 children's meal that costs Birr 32.15 each and 2 value meals that costs Birr 52.00 each.How much does the family spend together in Birr?
   A. 1064.45 B. 201.45 C.206.45 D.208.45
2. Megerssa is paid Birr 35.40 per hour. He can work for up to 30 hours per week. Which of the following in Birr is the maximum amount of money he can earn in a week?
   A.1162.05 B. 1262.05 C. 1062.00 D. 1200.05
3. From question number 2 above, how many hours per week should he work if he wants to earn Birr 991.20?

   A.22hrs. B. 20hrs. C. 21hrs. D. 28hrs

4. A sales man earned Birr 600 in commissions. If his commission was 10% of his sales. What was the amount of his sale in Birr?

   A.6000.00 B. 5000.00 C. 7000.00 D. 8000.00

5. 12 students out of 20 passed an examination. What percent of students failed?

   A. 60% B. 40% B. 35% C. 65%

6. A car dealer buys a car for Birr 1200 and then sales it for Birr 1600. What is the percentage profit?

   A.25% B. 33.3% C. 23.3% D. 75%

7. MOENCO increases the price of a TOYOTA car by 20%. If the original price was Birr 170,000. What is it new price in Birr?

   A. 340,000 B. 208, 000 C. 204,000 D. 136,000

8. A shop is offering a 1 discount on its goods for Christmas. If the price of a shirt in the shop was Birr before the discount. What is the current(sale) price of the shirt in Birr?

   A. 382.50 B.517.50 C. 398.50 D. 527.50

9. An article costs Birr 250 is sold at a profit of 25%. What is the selling price in Birr?

   A. 312.50 B. 320.50 C. 302.50 D. 321.50

10. If a pair of shoes has a mark up of Birr 80 which is 15% of the selling price, then which of the following is the selling price in Birr?

    A. 533.3 B. 433.3 C. 443.3 D. 543.3

11. Which of the following is the regular price of a television set assuming that a 20% discount would have been worth Birr 4000?

    A. 2,000 B. 20,000 C. 12,000 D. 24,000

12. A home is purchased with a mortgage of Birr 800,000. The buyer pays a loan orgination fee of 2.5 points. How much is the loan orgination fee in Birr?

    A. 15,000 B. 50,000 C. 20,000 D. 12,000

PART II. WORK OUT

13. A real estate broker Abel, receive a commission of 3.5% of the selling price of a house. Find the commission he earned for selling a home for Birr 950,000.
14. One day Henok works from 8:30 until 11:00. He is paid Birr 15.50 per hour. How much does he earn for his days work?
15. Helens salary is Birr 12,800 which is 25% more than the salary of her husband Abebe. How much is Abebe's salary
16. Senay buys 6 packs of Biscuits a week and each pack costs Birr 5.50. He works 20 hours a week at a wage of Birr 22 per hour. What percent of his weekly income does Senay spend on Biscuits?
17. Teklay worked 50 hours last week at an hourly rate of Birr 25 plus time – and – a – half for working over 40 hours per week. What is his gross pay?
18. Seneshaw received Birr 604.50 gross pay for the 32.5 hours he worked. What is hourly rate?
19. Find the monthly payment on an auto loan of Birr 450,000 to be amortized over a 15 year period at a rate of 10%?
20. Abrham dialed 200 telephone calls in a month. Each call costs 40 cents. The monthly telephone rental charge is Birr 8.00. If VAT was charged at 15%, find the total amount of Abraham's telephone bill?

Name: _____ Grade **12** Section: _ __ R.No: _ __
Date:_____ ___ Value **%** Subject: **physics**

Show all the necessary steps for each of the following questions

1. A solid disk is rolling without slipping on a level surface at a constant speed of 4m/s. How far can it roll up a 30^0 ramp before it stops?



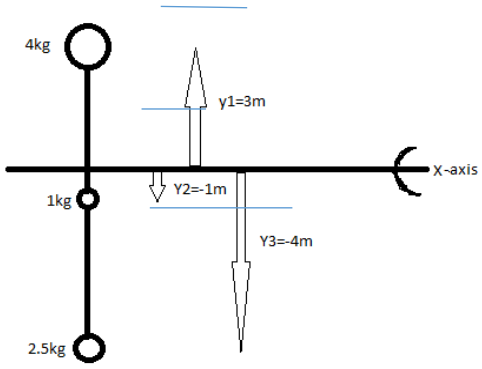
2. Three bodies are connected by rigid rod of negligible mass lying along the y-axis as shown in figure below. If the system rotates about the x-axis with an angular speed of 3rad/s. Determine

   a) the moment of inertia about the x-axis

   b) the total rotational kinetic energy

   c) the linear speed of each particle and

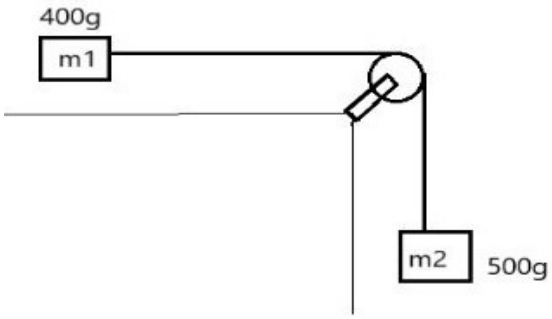
   d) the total linear energy



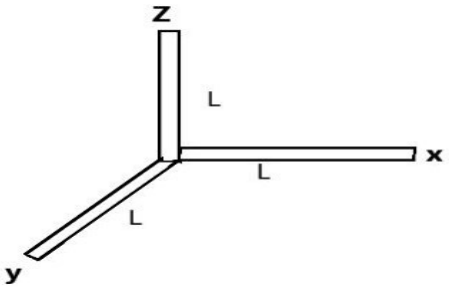
3. The syste[illegible]gure below is released from rest. There is no friction between the block and [illegible]ble. The moment of inertia of the pulley is 0.005kgm^2 and has a radius of [illegible], assuming it frictionless;

   a) how fast is the mass m_2 as it has fallen 2m?

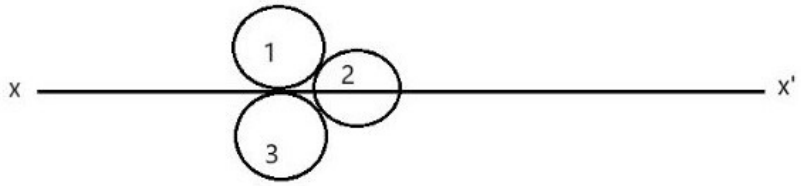
   b) how long does m_2 take to travel this height?



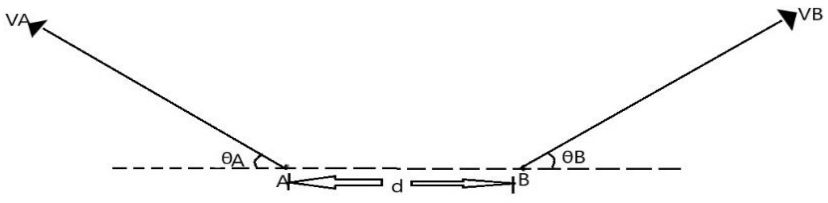
4. Thee thin uniform rods, each of mass m and length L lie along the x, y and z axes with one end of each at the origin. What is the moment of inertia about the x-axis for the three rod system?



5. Three identical solid spheres, each of mass M and radiusr are arranged as shown in figure below. What is the moment of inertia of the arrangement about xx'?



6. The angular velocity of a body is ω=(2i + 3j +4k)rad/s. A torque τ = (-i + 2j + 3k)Nm acts on it. What is the rotational power?
7. Two particles A and B are moving as shown in figure below, what is the angular speed of A with respect to B, at this instant? Discuss when the two angles are equal ($\Theta_A = \Theta_B$)



8. A particle of mass m is moving in a plane along a circle of radius r. Its angular momentum about the axis of rotation is L. What is the centripetal force acting on the particle?
9. A rod of length L is held vertically with one end on the floor and then allowed to fall. Assuming that the one end on the floor, find the linear speed of the other end when the rod just hits the floor

10. A merry-go-round consists of on essentially uniform 200kg solid disk mounted on a vertical axis. The radius of the disk is 8m which is moving at 0.24rev/sec. If two girls of equal mass (45kg each) sit down at the edge, what is its new speed?
11. A capacitor of capacitance 100μF and a coil of resistance 50Ω and inductance 0.5H are connected in series with a 110V -50Hz source. Calculate the r.m.s. value of the current in the circuit.

    (Hint use RC circuit concept)

12. A sinusoidal voltage E=200sin314t is applied to a resistor of 10Ω resistance. Calculate

    a) r.m.s. value of the voltage

    b) r.m.s. value of the current and

    c) power dissipated as heat in watt

    (Hint use root mean square values in a.c. circuits concept)

13. A pure inductance of 1H is connected across a 110V – 70Hz source. Find a) reactance b) current c) peakvalue of current

    (Hint use inductive circuits and alternating currents)

14. The current through a coil of inductance 2mH is represented by I=0.2sin200t ampere. Calculate the maximum value of the induced current.

    (Hint use inductive circuits and alternating currents)

15. When an inductor L and a resistor R in series are connected across a 12V, 50Hz supply, a current of 0.5A flows in the circuit. The current differs in phase from applied voltage by $\pi/3$ radian. Calculate the value of R.

    (Hint use RL circuit concept)

16. When 100 voltd.c is applied across a coil, a current of 1 ampere flows through it. When 100 volta.c. at 50cycles^{-1} is applied to the same coil, only 0.5 ampere current flows. Calculate the resistance, the impedance and the inductance of the coil.

    (Hint use RL circuit concept)

17. A circuit consists of a resistance 10Ω and a capacitance 0.1μF. If an alternating e.m.f. of 100V, 50Hz is applied, calculate the current in the circuit.

    (Hint use RC circuit concept)

18. A LCR-circuit has L=10mH, R=3Ω, and C=1μF and is connected in series to a source of 20 sin ωt volt. Calculate the current amplitude at a frequency 20% lower than the resonance frequency of the circuit.

    (Hint use the concept that combining resistors, capacitors and inductors)

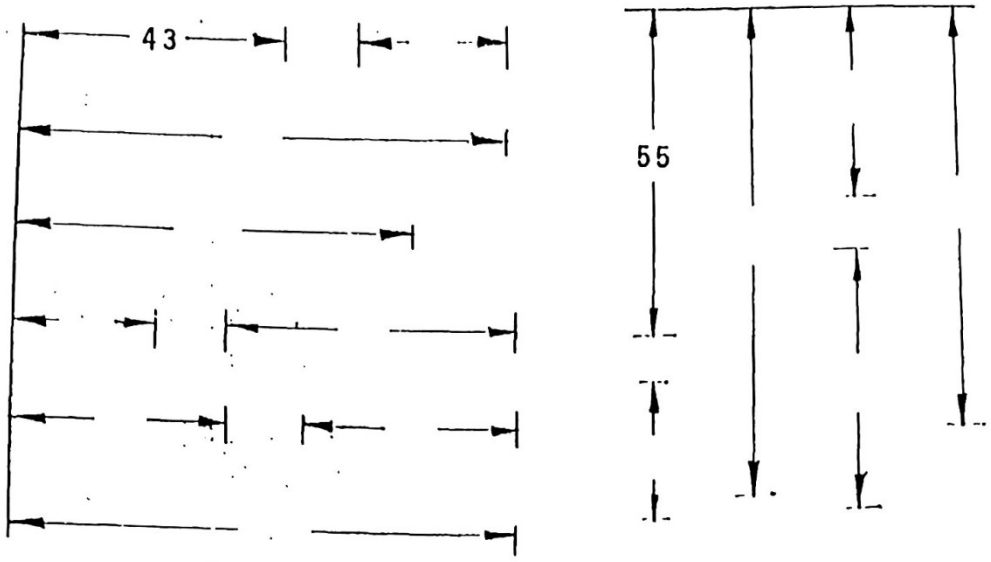
19. An alternating e.m.f. of 100V (r.m.s.), 50Hz is applied across a capacitor of 10μF and a resistor of 100Ω in series. Calculate a) the reactance of the capacitor; b) the current flowing; c) the average power supplied. (Hint use the concept power in a.c. circuits)

20. A resistor of 12Ω, a capacitor of reactance 14Ω and an inductor of reactance 30Ω are joined in series and placed across a 230V, 50Hz supply. Calculate a) the current in circuit, b) the phase angle between the current and the voltage and c) power factor.

(Hint use RLC circuit concept)

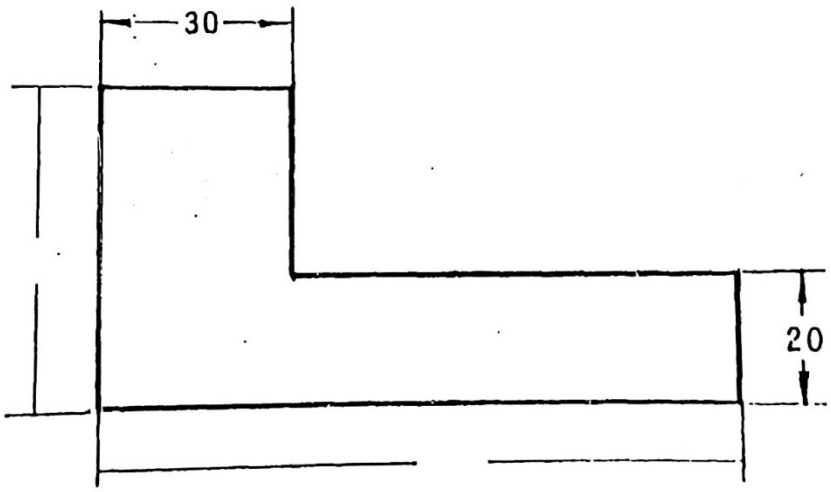
INSTRUCTIONS: 1. MEASURE THE LENGHTS BETWEEN THE ARROWHEADS WITH YOUR RULER.

2. WRITE THE CORRECT NUMBER IN THE FREE SPACE AS SHOWN.



INSTRUCTIONS: 1. MEASURE THE MISSING DIMENSIONS.

2. COMPLETE THE DRAWING WITH MISSING ARROWS AND NUMBERS IN SAME SIZE AS SHOWN.



NAME	SCHOOL	DATE

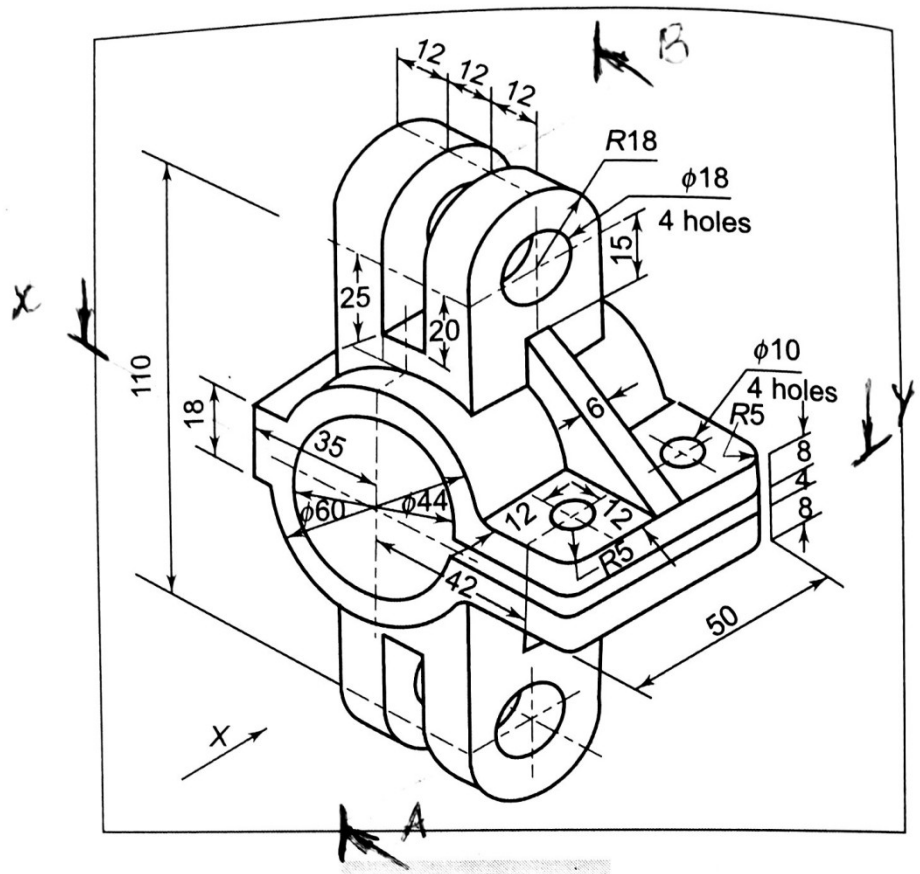
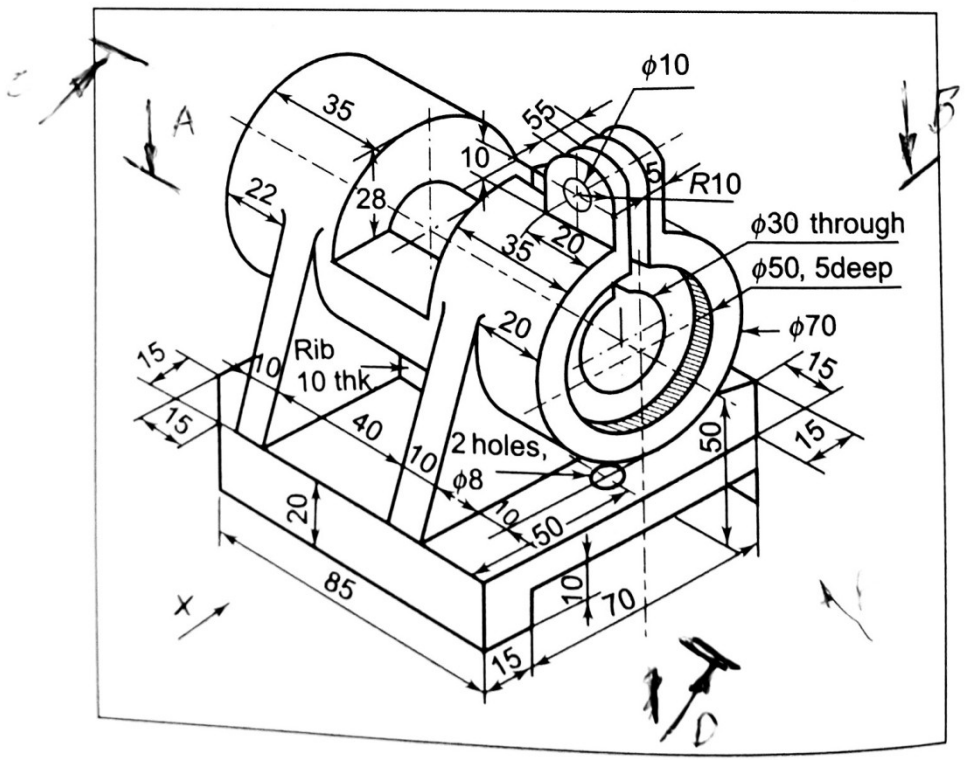
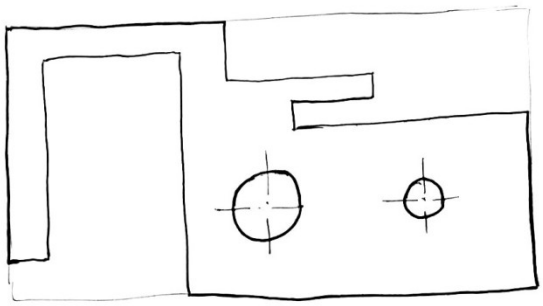


Figure E.11.10

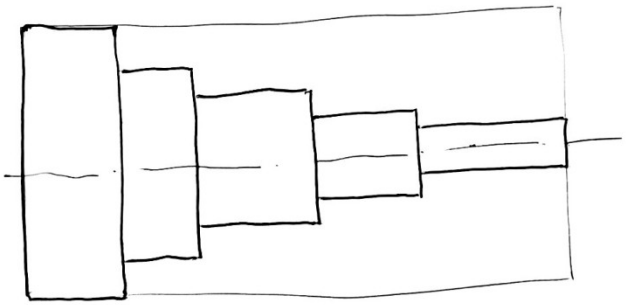


→ Redraw the following shapes and put all the necessary dimensions by considering the rules of dimensioning.

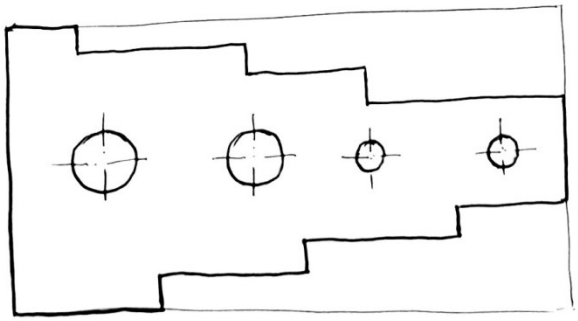
(1)

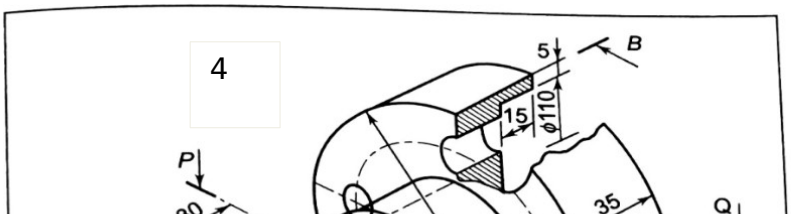


(2)



(3)





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