

Morning Reading

Grade 11 · AS · Week 7

Read each word aloud, then copy the English word three times.

Reading

Read the passage aloud twice.

Why is the door handle far from the hinge? Because a force turns an object more easily when it acts far from the **pivot**. The turning effect, the **moment**, equals the force times the **perpendicular distance** from the pivot to its **line of action**. Scissors, spanners and wheelbarrows are all machines built around this idea. Two equal and opposite forces that do not share a line form a **couple**, producing pure rotation, which is how you turn a steering wheel. A body at rest with no net force and no net moment is in **equilibrium**.

Inside the processor, special registers keep order. The **Program Counter** holds the address of the next instruction; the **Accumulator** holds the value being worked on. Instructions and data travel on the **address bus** and **data bus**, and the **clock speed** sets the rhythm.

Back in economics: if the metro fare rises 10% and passenger numbers barely change, demand is **inelastic**, and the operator's **total revenue** rises. For a **luxury** with many alternatives, the same rise would drive customers away.

Talk about it :

1. Why is it easier to open a door by pushing its edge, not its middle?
2. Metro fares rise 10%. Predict what happens to revenue, and explain.

Physics

Topics 1–5 · Physical quantities and units, Dynamics, Forces, density and pressure, Work, energy and power

 principle of moments			
 /ˈprɪnsɪpl ɒv ˈməʊmənts/			
 vector triangle			
 /ˈvektə ˈtraɪæŋɡl/			
 sine rule			
 /saɪn ruːl/			
 cosine rule			
 /ˈkəʊsaɪn ruːl/			
 cross-sectional area			
 /krɒs ˈsekʃənəl ˈeəriə/			
 hydrostatic pressure			
 /ˌhaɪdrəˈstætɪk ˈpreʃə/			
 depth			
 /depθ/			
 atmospheric pressure			
 /ˌætməˈsferɪk ˈpreʃə/			
 submerged			
 /səbˈmɜːdʒd/			
 upthrust			
 /ˈʌpθrʌst/			
 displaced			
 /dɪˈspleɪst/			
 Archimedes' principle			
/ɑːkɪˈmiːdɪz ˈprɪnsɪpl/			
floating			
/ˈfləʊtɪŋ/			

 tension			
<i>/ˈtɛnʃn/</i>			
 newton meter			
<i>/ˈnjuːtn ˈmi:tə/</i>			
 incompressible			
<i>/ˌɪnkəmˈpresəbl/</i>			
 closed system			
<i>/kləʊzd ˈsɪstəm/</i>			
 conservation of energy			
<i>/ˌkɒnsəˈveɪʃn ɒv ˈenədʒi/</i>			
 elastic potential energy			
<i>/ɪˈlæstɪk pəˈtɛnʃl ˈenədʒi/</i>			
 electrical energy			
<i>/ɪˈlektrɪkl ˈenədʒi/</i>			

Chemistry

Topics 3–4 · Chemical bonding, States of matter

 induced dipole			
<i>/ɪnˈdjuːst ˈdaɪpəʊl/</i>			
 permanent dipole			
<i>/ˈpɜːmənənt ˈdaɪpəʊl/</i>			
 hydrogen bonding			
<i>/ˈhaɪdrədʒn ˈbɒndɪŋ/</i>			
 boiling point			
<i>/ˈbɔɪlɪŋ pɔɪnt/</i>			
 surface tension			
<i>/ˈsɜːfɪs ˈtɛnʃn/</i>			
 dot-and-cross diagram			
<i>/dɒt ænd krɒs ˈdaɪagræm/</i>			
 collide			
<i>/kəˈlaɪd/</i>			

 pressure			
<i>/ˈpreʃə/</i>			
 ideal gas			
<i>/aɪˈdɪəl gæs/</i>			
 real gas			
<i>/rɪəl gæs/</i>			
= ideal gas equation			
<i>/aɪˈdɪəl gæs ɪˈkweɪʒn/</i>			
 kelvin			
<i>/ˈkelvɪn/</i>			
 gas constant			
<i>/gæs ˈkɒnstənt/</i>			
 crystalline solid			
<i>/ˈkrɪstəlaɪn ˈsɒlɪd/</i>			
 giant ionic			
<i>/ˈdʒaɪənt aɪˈɒnɪk/</i>			
 simple molecular			
<i>/ˈsɪmpl məˈlekjələ/</i>			
 fullerene			
<i>/ˈfʊləren/</i>			
 giant molecular			
<i>/ˈdʒaɪənt məˈlekjələ/</i>			

Biology

Topics 2–3 · Biological molecules, Enzymes

 collagen			
<i>/ˈkɒlədʒɪn/</i>			
 tendon			
<i>/ˈtɛndɪn/</i>			
 fibre			
<i>/ˈfaɪbə/</i>			

 solvent			
/ˈsɒləvənt/			
 specific heat capacity			
/spəˈsɪfɪk hiːt kəˈpæsɪti/			
 latent heat of vaporisation			
/ˈleɪtənt hiːt ɒv ˌveɪpəraɪˈzeɪʃn/			
 evaporate			
/ɪˈvæpəreɪt/			
 catalyse			
/ˈkætəlaɪz/			
 intracellular			
/ˌɪntrəˈseljələ/			
 catalase			
/ˈkætəleɪz/			
 extracellular			
/ˌekstrəˈseljələ/			
 secrete			
/sɪˈkriːt/			
 amylase			
/ˈæmɪleɪz/			
 digest			
/ˈdaɪdʒest/			
 active site			
/ˈæktɪv saɪt/			
 substrate			
/ˈsʌbstreɪt/			
 enzyme–substrate complex			
/ˈenzaim ˈsʌbstreɪt ˈkɒmpleks/			
 product			
/ˈprɒdʌkt/			
 complementary			
/ˌkɒmplɪˈmentəri/			

 specificity			
/ˌspesɪˈfɪsɪti/			
 lock-and-key hypothesis			
/lɒk ænd kiː haɪˈpɒθəsis/			
 induced-fit hypothesis			
/ɪnˈdʒuːst fɪt haɪˈpɒθəsis/			
 activation energy			
/ˌæktɪˈveɪʃn ˈenədʒi/			

Mathematics

Topic 1 · Pure Mathematics 1

 derivative			
/dɪˈrɪvətɪv/			
 chain rule			
/tʃeɪn ruːl/			
 second derivative			
/ˈsekənd dɪˈrɪvətɪv/			
 normal			
/ˈnɔːml/			
 increasing function			
/ɪnˈkriːsɪŋ ˈfʌŋkʃn/			
 decreasing function			
/ˈdiːkriːsɪŋ ˈfʌŋkʃn/			
 rate of change			
/reɪt ɒv tʃeɪndʒ/			
 stationary point			
/ˈsteɪʃənəri poɪnt/			
 minimum point			
/ˈmɪnɪməm poɪnt/			

^

maximum point

/ˈmæksɪməɪn pɔɪnt/

Further Mathematics

Topic 1 · Further Pure Mathematics 1

↻

turning points

/ˈtɜːnɪŋ pɔɪnts/

÷

partial fractions

/ˈpɑːʃl ˈfrækʃnz/

↻

rotation

/rəʊˈteɪʃn/

[↔]

reflection

/rɪˈflekʃn/

[]

enlargement

/enˈlaːdʒmənt/

Computer Science

Topics 4–5 · Processor Fundamentals, System Software

🔧

assembler

/əˈsemblə/

📄

symbol table

/ˈsɪmbl ˈteɪbl/

🏷️

label

/ˈleɪbl/

➡

forward references

/ˈfɔːwəd ˈrefrənsɪz/

📍

addressing mode

/əˈdresɪŋ məʊd/

⚡

immediate addressing

/ɪˈmiːdiət əˈdresɪŋ/

📍

direct addressing

/daɪˈrekt əˈdresɪŋ/

↪

indirect addressing

/ɪndaɪˈrekt əˈdresɪŋ/

#

indexed addressing

/ˈɪndekst əˈdresɪŋ/

➡

relative addressing

/ˈrelatɪv əˈdresɪŋ/

»

logical shift

/ˈlɒdʒɪkl ʃɪft/

🎭

mask

/mæsk/

⚡

cache memory

/kæʃ ˈmeməri/

📄

Immediate Access Store

/ɪˈmiːdiət ˈækses stɔː/

📄

special purpose registers

/ˈspeʃl ˈpɜːpəs ˈredʒɪstəz/

↔

register transfer

/ˈredʒɪstə ˈtrænsfɜː/

↻

cyclic shift

/ˈsaɪklɪk ʃɪft/

🖥️

operating system

/ˈɒperetɪŋ ˈsɪstəm/

⚙️

process management

/ˈprəʊses ˈmænɪdʒmənt/

⚙️

process

/ˈprəʊses/

 memory management			
<i>/ˈmeməri ˈmænidʒmənt/</i>			
 virtual memory			
<i>/ˈvɜːtʃuəl ˈmeməri/</i>			
 paging			
<i>/ˈpeɪdʒɪŋ/</i>			
 device driver			
<i>/diˈvaɪs ˈdraɪvə/</i>			
 utility program			
<i>/juːˈtɪlɪti ˈprəʊɡræm/</i>			
 disk defragmenter			
<i>/disk ˌdiːˈfræɡməntə/</i>			
 backup			
<i>/ˈbækʌp/</i>			
 antivirus			
<i>/ˌæntɪˈvaɪrəs/</i>			

Economics

Topic 2 · The price system and the microeconomy

= unit elastic			
<i>/ˈjuːnɪt ɪˈlæstɪk/</i>			
— perfectly inelastic			
<i>/ˈpɜːfektli ɪnˈlæstɪk/</i>			
↔ perfectly elastic			
<i>/ˈpɜːfektli ɪˈlæstɪk/</i>			
 necessity			
<i>/nəˈsesɪti/</i>			
 luxury			
<i>/ˈlʌkʃəri/</i>			
 total revenue			
<i>/ˈtəʊtl ˈrevənjuː/</i>			

 income elasticity of demand			
<i>/ɪŋkʌm ɪləˈstɪsɪti ɒv dɪˈmænd/</i>			
 normal good			
<i>/ˈnɔːml ɡʊd/</i>			
 inferior good			
<i>/ɪnˈfɪəriə ɡʊd/</i>			
 cross elasticity of demand			
<i>/krɒs ɪləˈstɪsɪti ɒv dɪˈmænd/</i>			
 price elasticity of supply			
<i>/praɪs ɪləˈstɪsɪti ɒv səˈplaɪ/</i>			
 spare capacity			
<i>/speə kəˈpæsɪti/</i>			
 stocks			
<i>/stɒks/</i>			
 momentary			
<i>/ˈməʊməntəri/</i>			
 short run			
<i>/ʃɔːt rʌn/</i>			
 long run			
<i>/lɒŋ rʌn/</i>			