

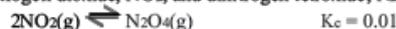
Acceptable methods to complete online exams

Best method

Write on the Word document using a touchscreen or a digital pen interface, like the test below:

IB Equilibrium TEST 36 marks, 45 min

1. The equilibrium between nitrogen dioxide, NO_2 , and dinitrogen tetroxide, N_2O_4 , is shown below.



What happens when the volume of a mixture at equilibrium is decreased at a constant temperature?

- I. The value of K_c increases
- II. More N_2O_4 is formed
- III. The ratio of $\frac{[\text{N}_2\text{O}_4]}{[\text{NO}_2]^2}$ decreases

- A. I and II only
- B. I and III only
- C. II and III only
- D. I, II and III

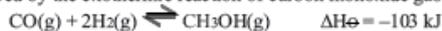
(Total 1 mark)

2. Which statement about chemical equilibria implies they are dynamic?

- A. The position of equilibrium constantly changes.
- B. The rates of forward and backward reactions change.
- C. The reactants and products continue to react.
- D. The concentrations of the reactants and products continue to change.

(Total 1 mark)

3. Methanol may be produced by the exothermic reaction of carbon monoxide gas and hydrogen gas.



- (a) State the equilibrium constant expression, K_c , for the production of methanol.

$$K_c = \frac{[\text{CH}_3\text{OH}]}{[\text{CO}] \cdot [\text{H}_2]^2}$$

(1)

- (b) State and explain the effect of changing the following conditions on the amount of methanol present at equilibrium:

- (i) increasing the temperature of the reaction at constant pressure.

the equilibrium mixture decreases as the temperature increases. Because the ratio of reaction backward when temperature increase.

(2)

Save and send a pdf version as well however, some writing systems 'slip' and don't save in the location you think, like in the example on the next page:



Problems with writing directly on the word: Slipping

When your writing isn't saved properly it can end up getting fixed to another area of the document, usually lower down. This is very easily fixed.

Save (Ctrl + s) after each question and before you scroll away from any new writing to prevent this from happening:

(c) What type of chemical reaction occurs when dilute hydrochloric acid reacts with sodium hydroxide solution?

[1]

(d) (i) Which solution of sodium hydroxide, solution O or solution P, is the more concentrated? Explain your answer.

[2]

(ii) How many times more concentrated is this solution of sodium hydroxide than the other solution of sodium hydroxide?

[1]

(e) If Experiment 2 were repeated using 10 cm³ of solution P, what volume of dilute hydrochloric acid would be needed?

[2]

(f) What would be the effect, if any, on the volume of dilute hydrochloric acid used in Experiment 1 if the solution of sodium hydroxide were warmed before adding the dilute hydrochloric acid? Give a reason for your answer.

effect on volume

reason

(g) (i) What would be a more accurate method of measuring the volume of the aqueous sodium hydroxide solution?

[1]

(ii) Suggest how the reliability of the results could be checked.

[1]

(h) Aqueous sodium hydroxide reacts with calcium chloride to form a precipitate of calcium hydroxide.

Use this information to suggest a different method of finding out which of the solutions of sodium hydroxide is the more concentrated.

solution D. Because the solution D needs more hydrochloric acid to react.

[3]

[Total: 17]

2.60 cm³.



Other ways that work

Write out the answers with a pen on a piece of LINED paper (if you don't have any, what's up with that?).

Include your NAME on every sheet, the date, the exam page number and the question number and part. Below is a good clear example.

Be careful that you include all of the questions and address all of the exam's marks. A quick check would be to write the number of marks next to the question number in [square] [brackets]. At the end find out if they all add up to the total for the exam.

1. C

2. C

3. (a) $K_c = \frac{[\text{CH}_3\text{OH}]}{[\text{CO}][\text{H}_2]^2}$

(b) (i) Increasing temperature will decrease the amount of methanol because the forward reaction is exothermic.

(ii) Increasing the ~~press~~ pressure would increase the amount of methanol because 3 ~~moles~~ moles of gas react to form 1 mol of methanol which means the product side has less molecules.

892

Draw lines to clearly separate question numbers from each other (press '-' 3 times then Enter)

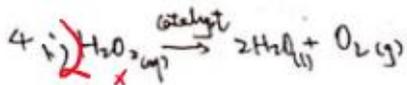
Don't write on plain paper, it's too confusing, and make sure there is a lot of space between your answers so that it is easy for the marker, and you, to see your answers, and so your marker can provide feedback about how you can improve. The example below is much harder to mark (and understand):



iii) NAME:

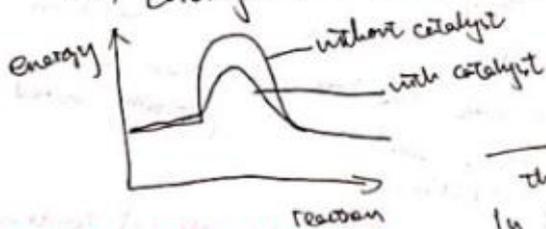
3. (i) Catalyst can speed up the reaction by lowering the E_a of reactions, so that time is saved by firms.

(ii) MORE SPACE BETWEEN Qs!
(2) It decrease the amount of energy needed so that less harmful gases or products would release ^{To do what?} to the environment.



ii) increase in concentration makes the reaction becomes slower, because it increases the activation energy. NO!

iii) catalyst can lower the activation energy,

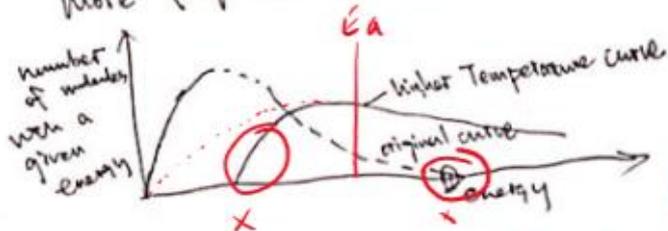


so that the reactants can absorb less energy to become activated, hence these activated molecule increase in proportion, it can increase the rate of reaction. X

Use Lined Paper!

LARGER DIAGRAMS & MORE COLOURS!

(iv) An increase in temperature ~~increases~~ would lead to a bigger proportion of particles with more kinetic energy than activation energy. the rate of collision X becomes more frequent, so the rate of reaction increases.



SPACE THINKS OUT

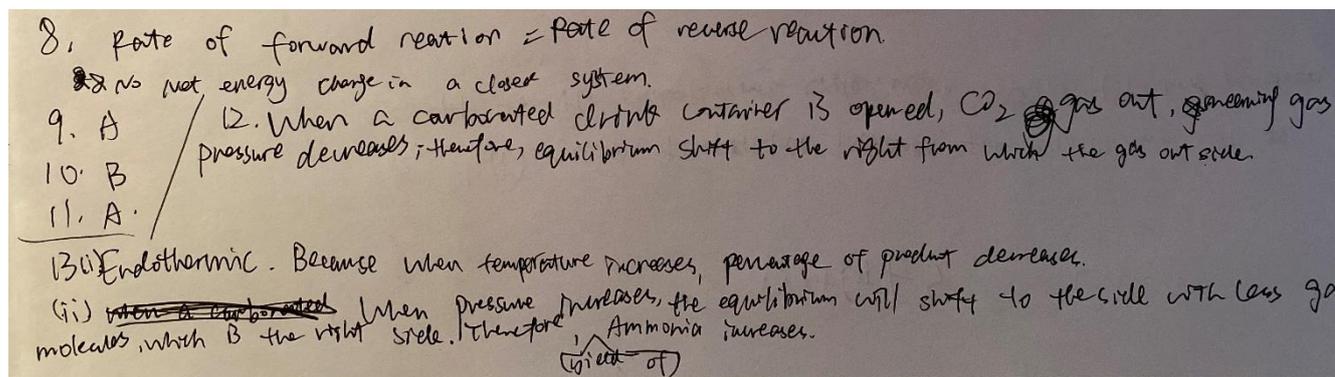
more time should be spent drawing better diagrams that are less untidy & clearer!

Also try to get a higher resolution image, but keep the file size reasonable, it shouldn't be more than 1 or 2 Mb (remember your teacher will have hundreds of these files).

You should not try to print out the test and complete it using a pen and pencil, although that is the best practice for you, there are too many cases where it has gone wrong recently, so it's too unreliable a method.



Another thing that you should avoid is changing the question order in your answer or trying to get too much into a small space. Just use another sheet of paper so that there are more spaces for your marker to work and it's easier to see what is going on. In the example below, which had a lot of good points to it, including correct answers, Q12 and Q13 clearly should have been written on a fresh page, and lined paper would have helped make the writing clearer, and larger, both important to improve its readability.



If you are going to cross something out, do so, but then skip to the next line to help improve the clarity of your work.

If your handwriting is still a work in progress, then

Use

Lots

And

Lots

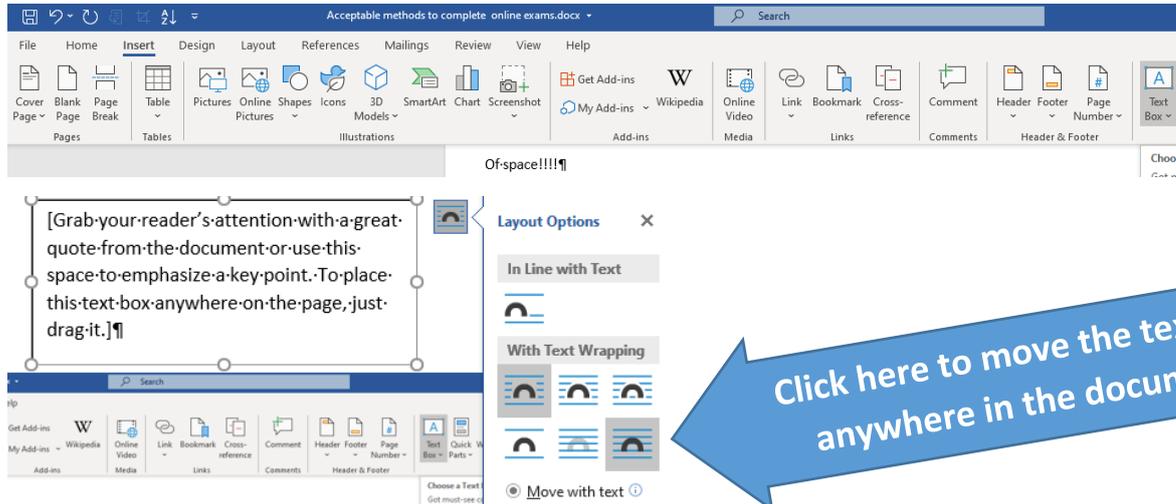
Of space!!!!



Textboxes and Word

Textboxes are found in the 'Insert' menu (Alt then I)

To move them around easily left click on the 'Layout Options' and select 'In Front of Text', shown below

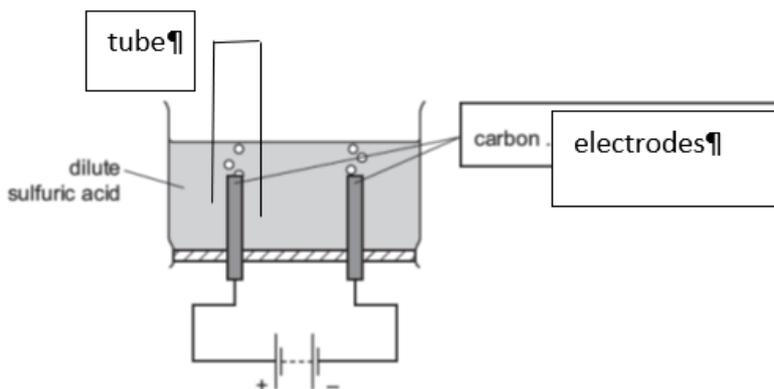


Click here to move the text box anywhere in the document

Working directly from the Word file they are easy to put in and also work, they don't have to be perfect, so don't waste time on getting them just right!! If you want to give it a go **learn how to do this before the exam!!!** (otherwise stick to pen and paper):

iG·ALL·EXAM·Paper·6·

- 1 A student investigated the gases formed during the electrolysis of dilute sulfuric acid using the apparatus shown. Hydrogen and oxygen were produced. 2



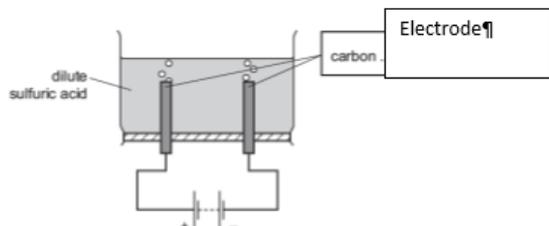
- (a) Complete the box to name the apparatus used. [1]
- (b) On the diagram, sketch how a sample of one of the gases could be collected. [2]
- (c) Give a test for oxygen.
- test Put a match with a little fire in it
- result the fire will be stronger [1]
- (d) The gas collected at the positive side turned limewater milky.
- (i) Based on this observation, what gas was present? CO₂ [1]
- (ii) Suggest how this gas was formed.

Carbon is electrolysed and loses electrons. react with oxygen to form CO₂. [1]



It's acceptable to describe what you would like to draw, sometimes. But a picture is worth a thousand words! Also, you don't have to be able to create Pixar-quality graphics to communicate your message clearly, and labels, as always, can explain what you mean. Learn about the 'Insert' tab at the top. A lot of neat things there! **But do this exploring before the exam, not during it!!!**

1 A student investigated the gases formed during the electrolysis of dilute sulfuric acid using the apparatus shown. Hydrogen and oxygen were produced.



- (a) Complete the box to name the apparatus used. [1]
- (b) On the diagram, sketch how a sample of one of the gases could be collected. [2]
- (c) Give a test for oxygen.

I-don't-how-to-use-computer-to-draw.it-should-be-a-measuring-cylinder-above-the-electrode

Also don't worry about empty pages like the one to the right, leave them in if they make formatting easier (press Alt then H then 8 to see what Word thinks is happening on your page, I only work in this mode, it's so much easier long term, but confusing at the beginning).

Name: []
ALL-EXAM-Paper 6--

[]

Did you know?

How many of the blockbuster movies referenced below were made entirely from drawings using only MS Word?

[]

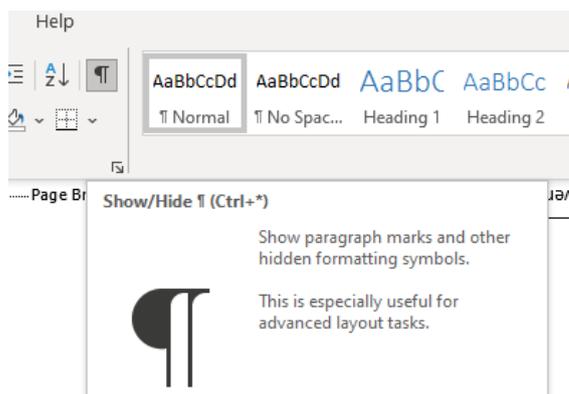
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Answer: None. Obviously, MS Word is just the worst for drawing (even putting this textbox upside down was hard)! But rough sketches are possible :o)

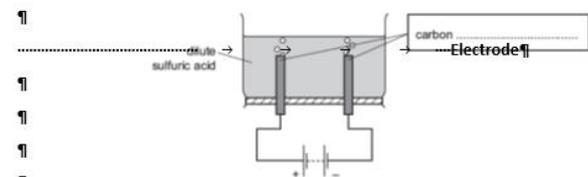


You could try to use Word spacing to get the text to align to the boxes, but this can be complicated, especially if you are not using the paragraph marks function in the Home tab (Alt then H then 8):



IG-ALL-EXAM-Paper-6

1 A student investigated the gases formed during the electrolysis of dilute sulfuric acid using the apparatus shown. Hydrogen and oxygen were produced.



(a) Complete the box to name the apparatus used. [1]

(Can't draw a graph. I can only describe) put a measuring cylinder upside down on one of the electrode full of water and does not touch the bottom of the water tank.

test Put growing splint into the test tube with gas collected
result Splint will relight. [1]

(d) The gas collected at the positive side turned lime water milky.
(i) Based on this observation, what gas was present?
Carbon dioxide [1]

(ii) Suggest how this gas was formed.
Oxygen produced in electrolysis react with carbon electrode to form carbon dioxide. [1]

(e) A solution of dilute sulfuric acid was electrolysed for 1 hour.
Suggest why the pH of the solution decreased during the electrolysis.
Large amount of water has been electrolysed and form gas which escaped from the solution. Thus concentration of sulfuric acid. [2]
[Total: 8]

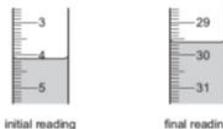
2 A student investigated the reaction between dilute hydrochloric acid and two different aqueous solutions of sodium hydroxide labelled solution O and solution P.

Two experiments were carried out.

Experiment 1

- A burette was filled with dilute hydrochloric acid. The initial burette reading was recorded.
- Using a measuring cylinder, 20 cm³ of solution O were poured into a conical flask.
- Thymolphthalein indicator was added to the conical flask.
- The dilute hydrochloric acid was added from the burette, while swirling the flask, until the solution just changed colour. The final burette reading was recorded.

(a) Use the burette diagrams to record the readings in the table and complete the table.

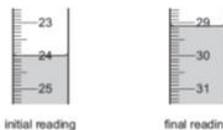


final burette reading / cm ³	29.6
initial burette reading / cm ³	4.1
difference / cm ³	25.5

Experiment 2

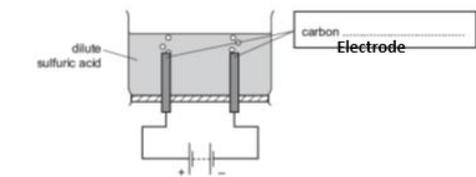
- The conical flask was emptied and rinsed with distilled water.
- Experiment 1 was repeated using solution P instead of solution O.

(b) Use the burette diagrams to record the readings in the table and complete the table.



final burette reading / cm ³	29.1
initial burette reading / cm ³	4.0
difference / cm ³	24.0

The same page without the paragraph marks or tab arrows (what would be printed, the default view)



(a) Complete the box to name the apparatus used. [1]

(Can't draw a graph. I can only describe) put a measuring cylinder upside down on one of the electrode full of water and does not touch the bottom of the water tank.

test Put growing splint into the test tube with gas collected
result Splint will relight. [1]

- Thymolphthalein indicator was added to the conical flask.
- The dilute hydrochloric acid was added from the burette, while swirling the flask, until the solution just changed colour. The final burette reading was recorded.

(a) Use the burette diagrams to record the readings in the table and complete the table.



final burette read / cm ³	29.6
initial burette reading / cm ³	4.1
difference / cm ³	25.5

Experiment 2

- The conical flask was emptied and rinsed with distilled water.

The reason the lines are so difficult normally in Word is due to the formatting of the paragraphs. The ¶ symbol shows where Word thinks a paragraph ends, and puts in a 6 point Font Size spacer line, that can be removed by selecting the paragraph, mouse right clicking the selection, press P and discover the Paragraph menu (bottom area in line spacing). **BUT NOT IN AN EXAM!!!**



Completing the test in another program

This is perfectly possible, just make sure at the end you take screenshots and put those into Word (IN THE RIGHT ORDER):

The screenshot shows a Microsoft Word document titled "iGCSE Chemistry Test Pre5.docx - Compatibility Mode - Word". The document content is a chemistry test paper titled "iG ALL EXAM Paper 6".

Question 1: A student investigated the gases formed during the electrolysis of dilute sulfuric acid using the apparatus shown. Hydrogen and oxygen were produced.

The diagram shows an electrolysis setup with two carbon electrodes in a beaker of dilute sulfuric acid (H_2SO_4). A gas tube is connected to the positive electrode.

Answers for Question 1:

- (a) Complete the box to name the apparatus used. [1]
Answer: carbon electrode
- (b) On the diagram, sketch how a sample of one of the gases could be collected. [2]
- (c) Give a test for oxygen.
test: Take a glowing splint and put it in the test tube.
result: See a resurgence of flame. [1]
- (d) The gas collected at the positive side turned lime water milky.
(i) Based on this observation, what gas was present?
Carbon dioxide [1]
(ii) Suggest how this gas was formed.
Carbon rod reacts with oxygen. [1]
- (e) A solution of dilute sulfuric acid was electrolysed for 1 hour. so oxygen & hydrogen
Suggest why the pH of the solution decreased during the electrolysis.
Because when water was electrolysed, the concentration of the sulfuric acid would increase and it would lower the pH. [2]

Question 2: A student investigated the reaction between dilute hydrochloric acid and two different aqueous solutions of sodium hydroxide labelled solution Q and solution P. Two experiments were carried out.

Experiment 1:

- A burette was filled with dilute hydrochloric acid. The initial burette reading was recorded.
- Using a measuring cylinder, 20 cm³ of solution Q were poured into a conical flask.
- Thymolphthalein indicator was added to the conical flask.
- The dilute hydrochloric acid was added from the burette, while swirling the flask, until the solution just changed colour. The final burette reading was recorded.

(a) Use the burette diagrams to record the readings in the table and complete the table. [2]

Initial reading: 4.1 cm³, Final reading: 29.6 cm³

final burette reading / cm ³	29.6
initial burette reading / cm ³	4.1
difference / cm ³	25.5

Experiment 2:

- The conical flask was emptied and rinsed with distilled water.
- Experiment 1 was repeated using solution P instead of solution Q.

(b) Use the burette diagrams to record the readings in the table and complete the table. [2]

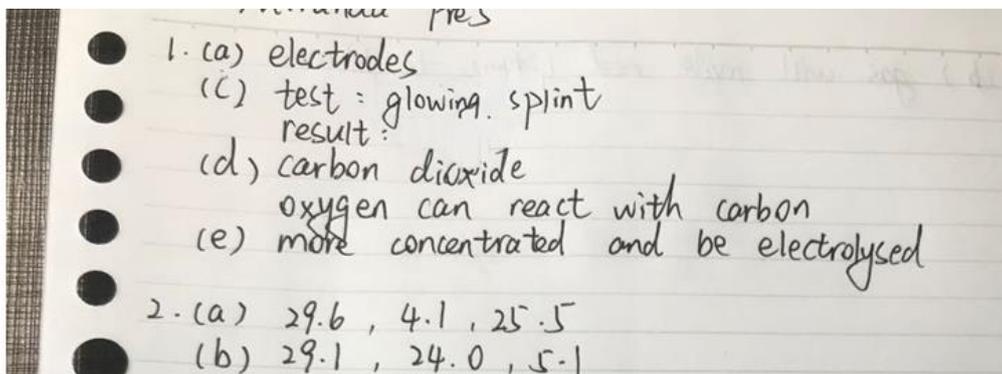
Initial reading: 24.0 cm³, Final reading: 29.1 cm³

final burette reading / cm ³	29.1
initial burette reading / cm ³	24.0
difference / cm ³	5.1

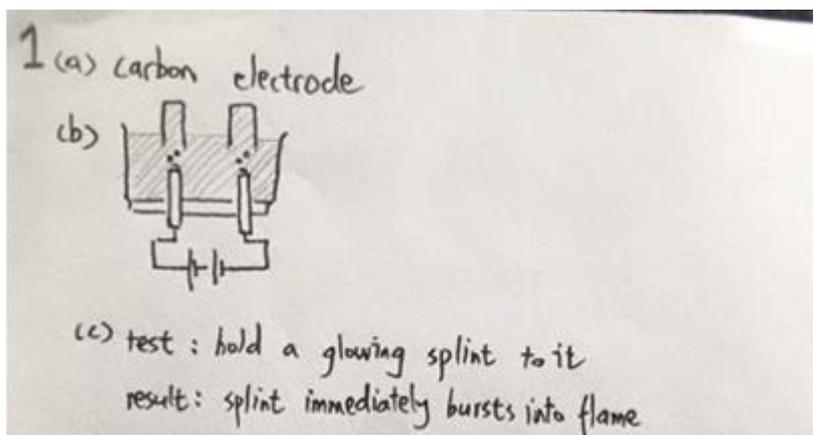
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To take a screenshot of anything at anytime in W10 with OneNote installed (on most computers) just press: 'windows + shift +s' but remember, the smaller it is on the screen, the lower the resolution of the picture you are putting into your clipboard.

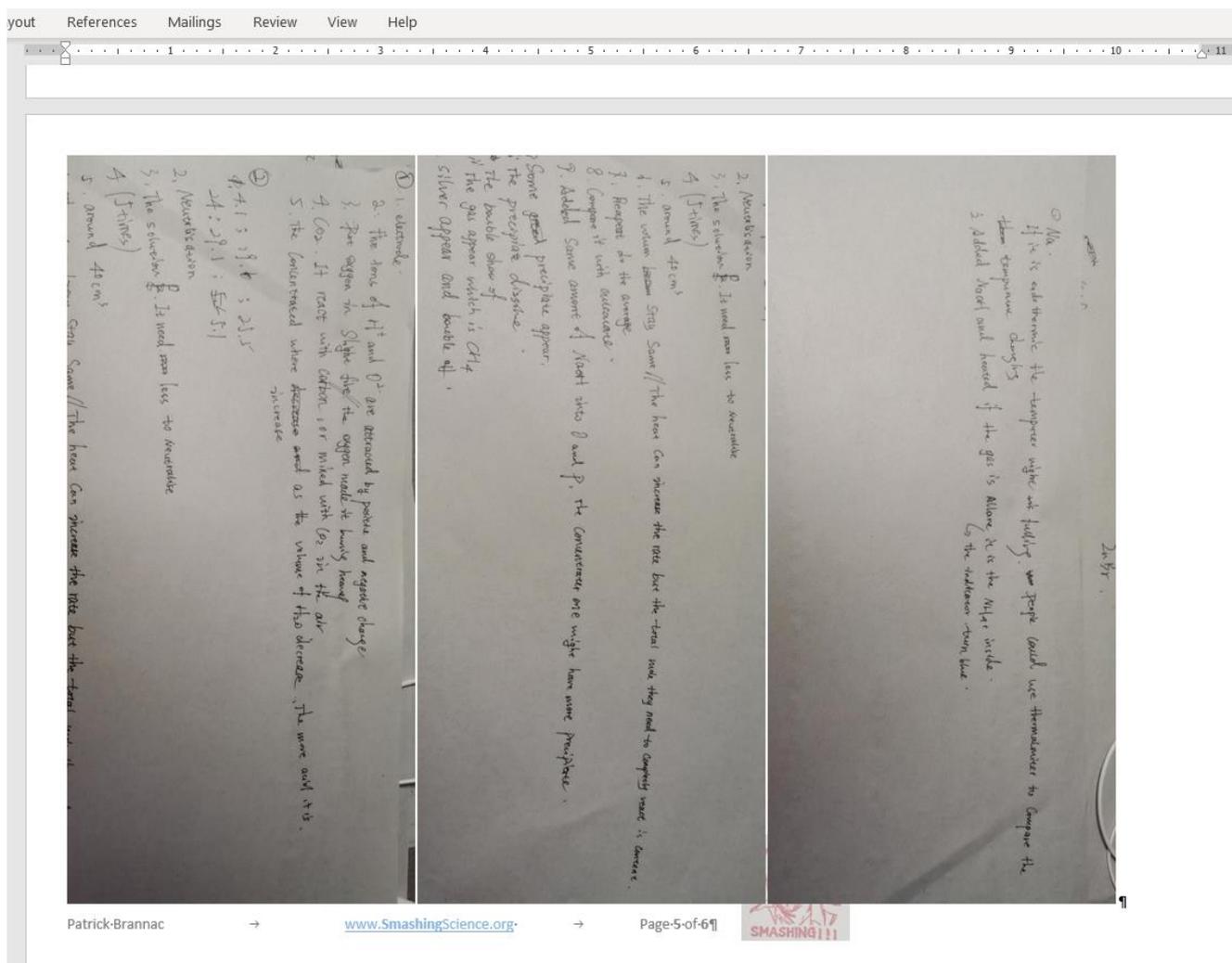
The same test above can also be handed in like this (they did not need to skip question 1(b) however):



So don't forget to add diagrams!



But remember you are trying to make yourself understood, so make sure your photo is of a readable quality, and in the right orientation before you send it off:



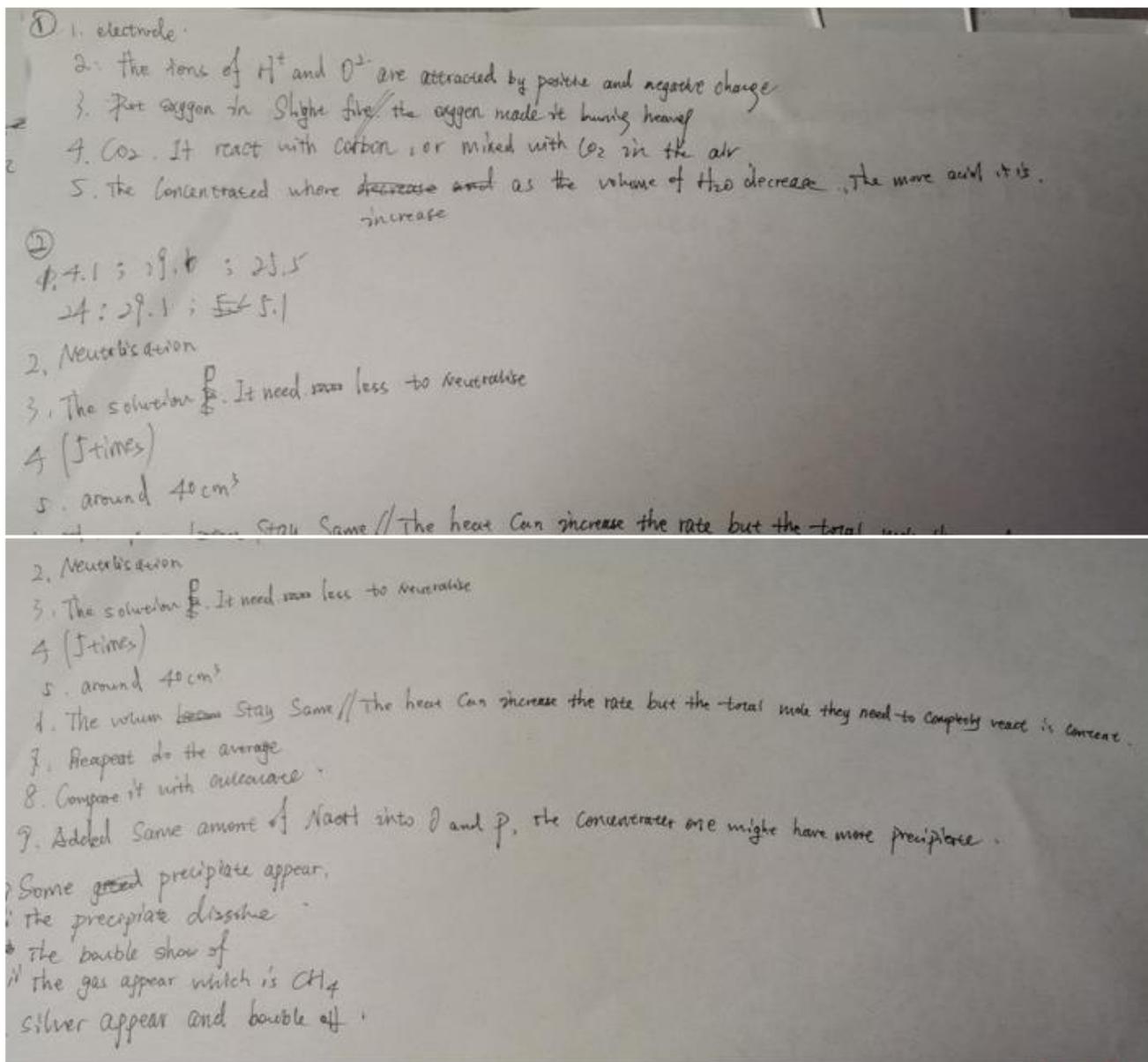
This is still better than a pdf, by the way.



Midnight mysteries

Also, try to tidy up what you are submitting. If it's photos, crop them so that your work doesn't repeat itself. If you have the piece of paper in front of you it is much easier for you to do, and you've just done the exam, so everything is fresh in your mind.

Find out for yourself, where does one page start and the other begin below? How do you know?



Also, take care that your photo includes the question ID, none of the answers above relate to the actual exam paper, not even the very first one, which should be Q1(a). Is this the whole exam? What do you think is going on at the end? It's nearly midnight on Thursday as I type this, so, you know, maybe less of these bamboozlers please. Thanks! However, as an example of why everyone wins with standardisation, it's totally legit.



You could also just type out the answers (no formatting needed, but diagrams can be hard to do):

1(a): electrodes

(b): put a beaker above the carbon electrodes.

(c): test: put a stick with mars and see if it can make the stick burn again.

Result: yes.

(d): carbon dioxide

The carbon electrode react with the oxygen produced and form carbon dioxide.

(e): because during the electrolyze, oxygen and hydrogen were produced in the anode and cathode, since the amount of sulfuric acid doesn't change and the water remains to decrease, so the concentration of sulfuric increase, the pH value decrease.

2. initial: 4.1

Final: 29.6

Difference: 25.5

(b): final:29.1

Initial:24

Difference:5.1

Draw lines to clearly separate question numbers from each other (press – 3 times then Enter in Word)

Also don't be afraid of highlighting things if that might make what you have written clearer and easier to work through!

Bold text and underlining text can also help. **BUT DON'T EXPERIMENT DURING THE EXAM!!!**

Include spaces with your typing!!!

Easier to mark and much easier to include comments about why a question is wrong:

(E): $20/5.1=10/x$ $x=2.55$ ml hence 2.55 ml of HCL is needed. (F): (1): the volume used will increase. (2): reason: because when heated in a conical flask, the NaOH may react with CO₂ in the air, hence producing sodium carbonate, which needs more HCL to be neutralized. (g)(1): use a pipette to get the solution into the conical flask. (2): because the pipette has a higher precision. (h): (1): Drip the calcium chloride solution into the samples of the two solutions (the samples have the same volume). (2): wait until the precipitate is formed, filter the precipitates out and dry them. (3): weigh the mass of the two precipitates from the two solutions, and the one with a bigger precipitate mass has a higher concentration.

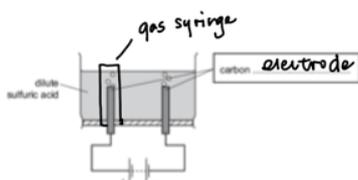
Typing, drawing and screenshots

You could try a combination of these different approaches (to take a screenshot: hold Windows +Shift + S together if OneNote is installed) if you have already done that before, **BUT DON'T EXPERIMENT IN WORD DURING THE**

EXAM!!!

1(a) Carbon
1(b)

electrode



1(c) Test: A glowing splint push into oxygen

Result: Relighted

1(d)(i) Carbon dioxide

(ii) Oxygen formed at anode reacts with carbon electrode.

1(e) Sulfuric acid reduced into sulfur, and reacts with OH⁻, which neutralizes the solution.

Final reading/cm ³	29.6
Initial reading/cm ³	4.1



Equations and online tests

Ask your teacher what they will accept when it comes to chemical equations.

I'll accept the whole thing typed out like this:



Top tips on typing equations faster

DO NOT EXPERIMENT WITH THIS IN YOUR TEST!!! (But worth knowing)

The arrow is an autocorrect feature of word, so type '$-->$', so -->, and it'll display →

For subscript, like O₂ can be easily accessed by holding 'Ctrl' then '=' key, press again and you can type in normal size again.

For superscript, like Ca²⁺ you just need to hold 'Ctrl' + 'Shift' then '=' key, press all three again and you'll be back in normal size.



Things you MUST do

When drawing or typing onto the Word file, **save it first into the NEW correct filename** (see below) in an easy to find folder.

You must send the actual file, not a link to it. A linked file could be changed afterwards and is harder to use for a variety of reasons and if it's too large to email, imagine what hundreds of files that big will do to your marker's system.

Make sure you use your school email address for handing this in. If you used a different one, your teacher may not get your file, and we cannot trace it if it isn't your school address.

After you send the file with your completed test, **check your outbox for the email**, download it, **open it and CHECK IT!!!** If it didn't send, or the internet cut out, or you sent the wrong file, this is your chance to take a screenshot of what you did send and email that to your teacher and ask for more time. They may not give it to you, but if it is a genuine problem, then this would be your best way to provide evidence.

When you get your papers back. **CHECK THE MARKING CAREFULLY!!!** Marking online is very different depending on how a student has presented their answers, so it's really easy for a marker to miss a sentence or a part of an answer. If a mark needs to be changed then talk to you teacher online in lesson, it's much easier and more straightforward than sending an email, which may not explain your idea well, and is really difficult to organise if your teacher gets 180 emails a week from students already.

The name of your file should follow this rule:

Pre1...

Pre5Englishname Chinese name Chemistry Test [description]

e.g. pre2Smashing Fěnsuì Xiānshēng Chemistry Paper 6 Monday morning test 30 March 2020

The bit underlined and in bold (all one word, no spaces) is the most important for helping your teachers organise their folders, the rest is useful in case a file goes missing and to help you to organise your files better for the future.

Miscellaneous tips

[Stuff in square brackets conventionally means the author, or editor is talking to you directly]. So being asked to type "Have a great day [your name]" might make a little more sense now.

Final top tip

None of the hotkeys and a lot of the advice here will not work on a Mac. Congratulations if that's you!

