A LEVEL *CHEMISTRY A & B*

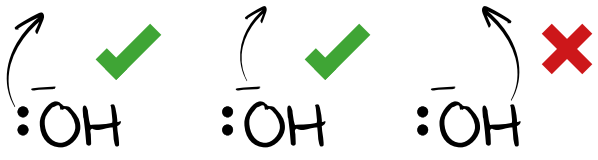
Oxford Cambridge and RSA

2019 Summer Highlights

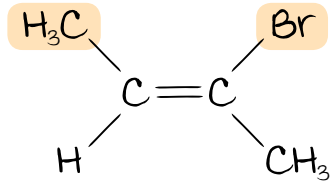
$2Fe^{2+} + H_2O_2 \rightarrow 2Fe^{3+} + 2H_2O$ ✗

$2Fe^{2+} + H_2O_2 + 2H^+ \rightarrow 2Fe^{3+} + 2H_2O$ ✓

Check equations for balancing errors after writing them. Remember that any charges should also be balanced.

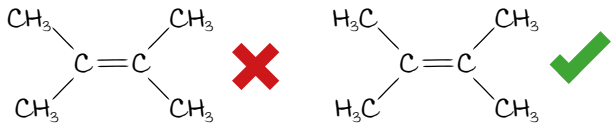


Curly arrows start from a bond, charge, or lone pair. If they can't be traced back to one of these they'll lose the mark.



Z isomer

CIP rules for naming alkenes are based on atomic numbers of substituents, not their molecular or atomic masses.



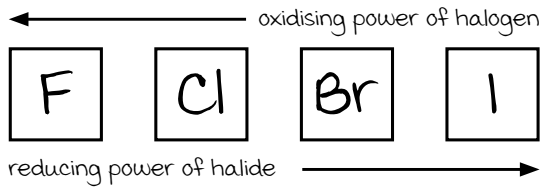
All structures should show correct connectivity (the correct bonds to the correct atoms in the structure).

$CaF_{2(s)}$ ✗ $CaF_2(s)$ ✓

Make sure state symbols in equations are clear. Some wrote lower case 's' similarly to 'g', making it indistinguishable.

$K_p = \frac{[NH_3]^2}{[N_2]^2 \times [H_2]^3}$ ✗ $K_p = \frac{p(NH_3)^2}{p(N_2)^2 \times p(H_2)^3}$ ✓

Square brackets indicate a concentration and shouldn't be used in K_p expressions.

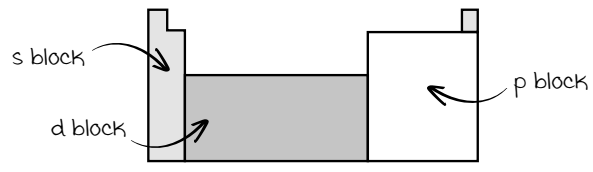


Down the group, oxidising power of the halogens decreases but reducing power of the halide ions increases.

The overall equation is shown below.

$2O_3 \rightarrow 3O_2 \qquad \Delta_r H = -284\ kJ\ mol^{-1}$

Be aware that given enthalpy changes relate to the molar quantities shown in the equation provided.



The block of the periodic table that an element is in refers to the orbital in which its highest energy electron is found.

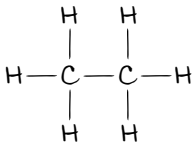
titre:	13.50 cm^3	1.35 cm^3
% error:	0.74%	7.4%

When carrying out a titration, be aware that a larger titre value will have a lower associated percentage error.

molecular: C_2H_6

structural: CH_3CH_3

display:



When asked to provide a formula, read the question carefully and ensure you give the type of formula it asks for.

E = ..0.28I.. V ✗

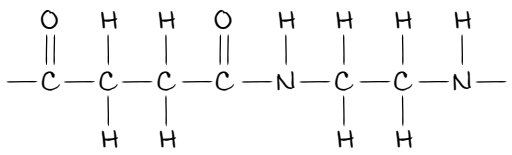
E = ..+ 0.28I.. V ✓

When giving E values for electrochemical cells ensure that you put a + or – in front of the value given as appropriate.

intramolecular forces ✗

intermolecular forces ✓

Avoid confusion between intermolecular bonds (between molecules) and intramolecular bonds (within molecules).

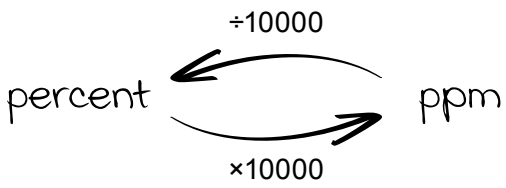


When asked to 'draw a section' of a protein or polymer, the end bonds of the structure should be left open.

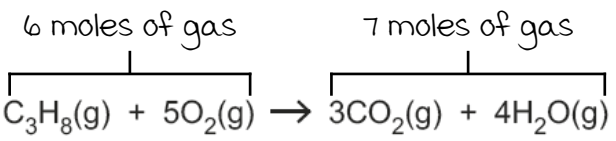
You may use a diagram in your answer.

.....

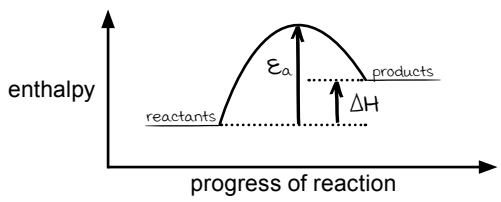
When a question provides space to draw a diagram, providing one can help make your answer clearer.



Converting between percentages and parts per million (ppm) is a required skill for the Chemistry B specification.



Reactions with more moles of gas in the products than the reactants will have a positive entropy change.



Values for activation energy (E_a) are typically positive, so negative values can be ruled out as a possibility.

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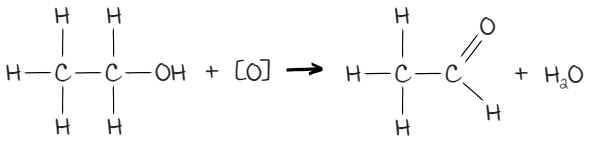
Chemistry A Level 2019 examiner comment summary

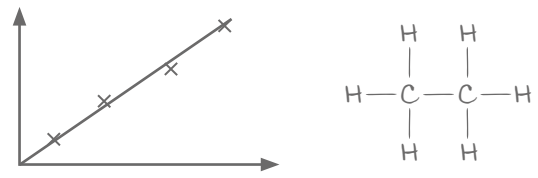
make sure hair is tied back ✗

make sure bags are under desks ✗

When a question asks for safety precautions, a response beyond normal safe lab practice is usually expected.



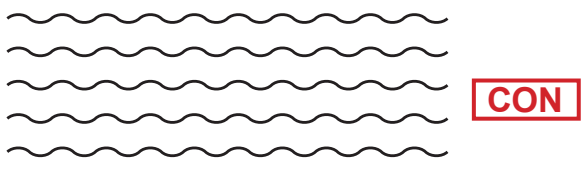
Describing a synthesis with equations along with words where possible is a good strategy to avoid writing lots of text.



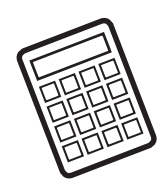
Graphs and chemical structures should be drawn in pencil – these will be picked up when the exam paper is scanned.

Your answer: ~~A~~ B

If changing the answer for an MCQ, completely cross out the wrong letter and write the correct one anew.



Longer answers don't always lead to more marks. If correct responses are contradicted, marks can be lost.



0.34564524 ✓

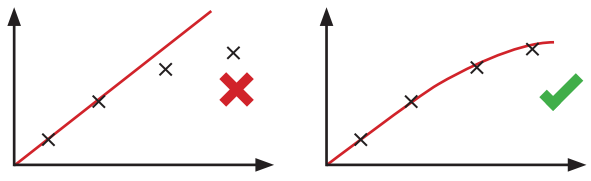
0.346 ✗

It's always more accurate to round once, for the final answer, and work with unrounded values on the calculator.

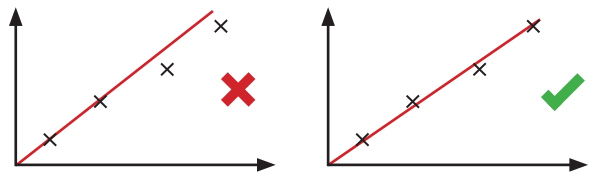
Give your answer to two significant figures.

Answer: 25 cm^3 ✓

Make sure you give answers to the number of significant figures in the question after performing calculations.



Lines of best fit can be straight or curved. They don't have to extend to the axes or origin if not appropriate.



Lines of best fit should cover all points and have a fair distribution of points above and below the line.

Answer: ~~1008~~ −504

Cross out answers if you need to change them. Trying to correct an answer by writing over it can make it unclear.

a. ~ ✗
b. ~ ✓
c. ~ ✗

For MCQs, if you don't know the answer try eliminating options by annotating. Don't leave MCQ answers blank!

$\frac{4.10}{202}$ = 0.0203 mol $\frac{4.91}{94}$ = 0.0522 mol

percentage yield = 38.89 % ✓ ECF

Show clear working for calculations. Error carried forward may mean a response still gains marks if a mistake is made.

Remember that precision is the closeness of agreement between different results. It is not the same as accuracy.

Accuracy is a measure of how close a result is to the true value.

Answer: 65000

Answer: 6.5×10^4

You need to be able to convert results between decimal form and standard form (e.g. $a \times 10^n$).

The full candidate exemplar materials for the 2019 Chemistry A Level papers can be found on Interchange.

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