Practice Marking Materials for Technical Qualifications

2019

City & Guilds

Level 2 Technical Certificate in Plumbing 8202-25

introduction

The synoptic assignments for the City & Guilds Technical Qualifications are externally set summative assessments which are internally marked by tutors. It is the centre's responsibility to ensure candidates' work is marked in a standard way across the centre, using the specified marking grid, in order to rank performance on a single mark scale.

Practise marking materials are useful to support centre staff with internal standardisation and as a pre-standardisation activity. The materials are produced to support staff in the process of marking including how to effectively use marking grids and assessment objectives (AO).

The marking materials must be considered alongside the Technical qualifications Marking and Moderation Guide

It is recommended that all tutors, including any unlikely to mark, are included in early discussions around the use of the marking grid, as all tutors should understand the basis of marking as it could shape their teaching by helping candidates practise bringing their skills and knowledge together to complete a problem, and helping them learn how to explain and justify their choices in terms of the subject knowledge in preparation for summative assessment. Tutors must study the *Marking and Moderation Guide:* *https://www.cityandguilds.com/techbac/technical-qualifications/resources-and-support* which provides detailed information about generic assessment objectives, and the marking grid, to ensure they are clear about the different AOs and how they may show up in evidence for assignments in the subject area. If there is more than one tutor carrying out marking at the centre, this process should be carried out as part of a group activity to ensure all markers are clear and in agreement about what sorts of evidence are relevant for assessment and which AO they fit into.

The following materials could form the basis for pre-standardisation practice and discussion could take place using evidence from trial runs/formative assessment activities. Standardisation should also take place using the evidence from the actual assignment set for that year, so along with utilising this tool, please ensure that activities surrounding the 2019 assignment also take place.

Within this pack, you will find

- a sample task brief
- a copy of the marking grid used for the synoptic assessment
- a sample of materials responding to either last year's synoptic assignment or a sample set of tasks. This includes learner produced evidence and tutor observations of the practical performance.

And finally, the Principal Moderator has provided a breakdown of the marks for the different assessment objectives along with general hints and tips on the synoptic assessment.

Section 1 Assignment Brief

You have been called to a domestic property to undertake unplanned emergency maintenance; this consists of a radiator that will not heat up, a leaking pump valve and a WC cistern that does not fill up. The supervisor has been on-site, carried out an inspection, and identified the following faults, which you are required to undertake. The following components need replacing. All work carried out must adhere to all Health & Safety legislation and procedures:

- Float operated valve
- Replacement of a set of pump Valves
- Replacement of a thermostatic radiator valve

The following installation must include:

A radiator to be installed with thermostatic valves, flow and return pipework to be accessed from existing supplies. Cold water supply and hot water distribution pipework connected to any suitable sink and suitable washing machine branches installed and valves fitted (an actual washing machine is not required to be fitted) all pipework is to be surface mounted and installed to a commercially acceptable standard. Installation must be in copper for water supplies and adequately supported. All bends to be fabricated by machine and joints to be made using new capillary solder fittings. Soil and waste for installation will be push fit pipework

Task 1

Replace defective components – 2 hours

Components replaced correctly

Additional evidence of your performance that must be captured for marking and submitted for moderation (if applicable):

- tutor's notes of your working practice describing the quality, consistency and accuracy of the finished work, and details of your contribution

Task 2

Produce a plan, materials and equipment list for the proposed new installation giving reasons for your choices – 2 hours

What must be produced for marking and submitted for moderation (if applicable):

Plan, materials and equipment list

Additional evidence of your performance that must be captured for marking and submitted for moderation (if applicable):

your tutor's notes of your working practice describing the quality, consistency and accuracy of the finished work, and details of your contribution

Task 3

Safely erect and use access equipment – 1 hour

- Demonstrate safe erect and use of a Class I industrial ladder or suitable alternative
- Demonstrate safe use of a suitable scaffold

Conditions of assessment:

- You must carry the task out on your own, under supervised conditions.

What must be produced for marking and submitted for moderation (if applicable):

- Your tutor's notes confirming you have used the equipment safely.

Task 4

Installation of Utility Room – 6 hours

4a)

Complete the installation in accordance with the supplied drawing (Fig 1) in Appendix 1. All pipework is 15 mm copper with 75 mm centres, unless otherwise stated. All joints need to be end feed and soldered.

4b)

De commission the installation (when instructed by your supervisor)

Section 2 Marking Grid

%	Assessment Objective	Band 1 descriptor Poor to limited	Band 2 descriptor Fair to good	Band 3 descriptor Strong to excellent
10	AO1 Recall of knowledge relating to the qualification LOs • Does the candidate seem to have the full breadth and depth of taught knowledge across the qualification to hand? How accurate is their knowledge? Are there any gaps or misunderstandings evident? • How confident and secure does their knowledge seem?	(1 - 2 marks) Recall shows some weaknesses in breadth and/or accuracy. Hesitant, gaps, inaccuracy	(3 - 4 marks) Recall is generally accurate and shows reasonable breadth. Inaccuracy and misunderstandings are infrequent and usually minor. Sound, minimal gaps	(5 - 6 marks) Consistently strong evidence of accurate and confident recall from the breadth of knowledge. Accurate, confident, complete, fluent, slick
		Examples of types of knowledge expected: PPE, Health and Safety, component identification and layout, roles and responsibilities, types of access equipment, guidance material, heat transfer, backflow protection, selection of tools and safety checks, fixings.		
		Where the candidate has demonstrated knowledge it has been limited and/or showing inaccuracies. There are clear gaps in knowledge with little confidence in working independently.	The candidate has shown a good range of knowledge from across the qualification which is sound. The candidate seeks minimal guidance or reassurance in the completion of tasks.	The candidate shows in-depth and detailed knowledge across the whole qualification range, showing a high degree of accuracy. The candidate is confident and requires no reassurance.

%	Assessment Objective	Band 1 descriptor Poor to limited	Band 2 descriptor Fair to good	Band 3 descriptor Strong to excellent
20	AO2 Understanding of concepts theories and processes relating to the LOs • Does the candidate make connections and show causal links and explain why? • How well are the theories and concepts applied to new situations/the assignment? • How well chosen are exemplars – how well do they illustrate the concept?	(1 - 2 marks) Some evidence of being able to give explanations of concepts and theories. Explanations appear to be recalled, simplistic or incomplete. Misunderstanding, illogical connections, guessing.	(3-4 marks) Explanations are logical. Showing comprehension and generally free from misunderstanding, but may lack depth or connections are incompletely explored. Logical, slightly disjointed, plausible.	(9-12 marks) Consistently strong evidence of clear causal links in explanations generated by the candidate. Candidate uses concepts and theories confidently in explaining decisions taken and application to new situations. Logical reasoning, thoughtful decisions, causal links, justified.
		Examples of understanding expected: Explanations/comparisons related to hazardous situations and PPE measures, hot, cold and drainage systems and layouts, Installation requirements, Installation methods, testing and decommissioning, materials and uses, principles of electricity, heat and power, sanitary appliances, water regulations, SI unit.		
		The candidate has shown a basic understanding of industry concepts and theories from this qualification. Understanding is satisfactory but does cover a limited range. Justifications are typically brief or simplistic and do not underpin choices made.	The candidate has demonstrated a broad level of understanding regarding the plumbing industry with minor inconsistencies. Work produced has some justified links between theory and practical aspects.	The candidate demonstrates a high degree of understanding. The candidate makes confident and in depth links between theories and concepts that are well justified. Explanations of concepts being clear and strong enabling them to be applied with consistent success.

%	Assessment Objective	Band 1 descriptor Poor to limited	Band 2 descriptor Fair to good	Band 3 descriptor Strong to excellent
40	AO3 Application of practical/ technical skills • How practiced/fluid does hand eye coordination and dexterity seem? • How confidently does the candidate use the breadth of practical skills open to them? • How accurately/ successfully has the	(1-8 marks) Some evidence of familiarity with practical skills. Some awkwardness in implementation, may show frustration out of inability rather than lack of care. Unable to adapt, frustrated, flaws, out of tolerance, imperfect, clumsy.	(9-16 marks) Generally successful application of skills, although areas of complexity may present a challenge. Skills are not yet second nature. Somewhat successful, some inconsistencies, fairly adept/ capable.	(17-24 marks) Consistently high levels of skill and/or dexterity, showing ability to successfully make adjustments to practice; able to deal successfully with complexity. Dextrous, fluid, comes naturally, skilled, practiced.
		Examples of skills expected: Working with tools, equipment and materials, promoting health and safety, work methods, installation techniques, work practice, time management, economical use of materials, site safety, communication skills, accuracy and presentation.		
%	Assessment Objective	Band 1 descriptor Poor to limited	Band 2 descriptor Fair to good	Band 3 descriptor Strong to excellent

	candidate been able to use skills/achieve practical outcomes?	The candidate has completed the tasks but exceeded the allocated time by no more than 10%. Candidates show low confidence in practical skills and are carried out with some awkwardness. Measurements are often inaccurate and tolerances are not met. Access to higher marks: Candidate has completed the tasks but exceeded the allocated time by no more than 10%. Candidate has limited confidence in performing practical skills but has the ability to carry out basic tasks. Some measurements and tolerances are met.	The candidate has completed the tasks within the allocated time. The candidate's practical skills are reasonably well developed allowing most measurements and tolerances to be met but some inconsistencies exist. Access to higher marks: The candidate has completed the tasks within the allocated time. Practical skills are of a good standard and shows a good level of confidence on all basic tasks.	The candidate has completed the tasks within the allocated time. Candidates show a high degree of confidence and efficiency along with a methodical approach to completing tasks. Practical skills are highly developed and the majority of measurements and tolerances are met. Access to higher marks: The candidate has completed the tasks within the allocated time. Practical skills demonstrated are outstanding and all measurements and tolerances are met.

%	Assessment Objective	Band 1 descriptor Poor to limited	Band 2 descriptor Fair to good	Band 3 descriptor Strong to excellent
20	AO4 Bringing it all together - coherence of the whole subject • Does the candidate draw from the breadth of their knowledge and skills? • Does the candidate remember to reflect on theory when solving practical problems? • How well can the candidate work out solutions to new contexts/ problems on their own?	(1-4 marks) Some evidence of consideration of theory when attempting tasks. Tends to attend to single aspects at a time without considering implication of contextual information. Some random trial and error, new situations are challenging, expects guidance, narrow. Many need prompting.	(5-8 marks) Shows good application of theory to practice and new context, some inconsistencies. Remembers to apply theory, somewhat successful at achieving fitness for purpose. Some consolidation of theory and practice	(9-12 marks) Strong evidence of thorough consideration of the context and use of theory and skills to achieve fitness for purpose. Purposeful experimentation, plausible ideas, guided by theory and experience, fit for purpose, integrated, uses whole toolkit of theory and skills.
		Examples of bringing it all together: applying knowledge and understanding to the tasks/ scenario, able to plan activities from information provided. Materials and techniques are used appropriately, correct sequence of operations carried out. Safe working practices demonstrated		
		There is some evidence of the candidate using knowledge, understanding and skills from across the qualification. However the candidate finds new situations challenging and this has resulted in signs of random trial and error which has produced some work of low quality.	There is good evidence of the candidate using knowledge, understanding and skills from across the qualification. The candidate has shown signs of consolidating theory and practice. This has resulted in the candidate demonstrating the ability to solve minor problems. The work produced is of a good standard.	There is strong evidence of the candidate using knowledge, understanding and skills from across the qualification. The candidate is able to use their whole toolkit of theory and skills in an integrated manner to produce work of a consistently high quality.

%	Assessment Objective	Band 1 descriptor Poor to limited	Band 2 descriptor Fair to good	Band 3 descriptor Strong to excellent
10	AO5 Attending to detail/ perfecting • Does the candidate routinely check on quality, finish etc and attend to imperfections/omissions? • How much is accuracy a result of persistent care and attention (eg measure twice cut once)? • Would you describe the candidate as a perfectionist and wholly engaged in the subject?	(1-2 marks) Easily distracted or lack of checking. Insufficiently concerned by poor result; little attempt to improve. Gives up too early; focus may be on completion rather than quality of outcome. Careless, imprecise, flawed, uncaring, unfocussed, unobservant, unmotivated	(3-4 marks) Aims for satisfactory result but may not persist beyond this. Uses feedback methods but perhaps not fully or consistently. Variable/intermittent attention, reasonably conscientious, some imperfections, unremarkable.	(5-6 marks) Alert, focussed on task. Attentive and persistently pursuing excellence. Using feedback to identify problems for correction. Noticing, checking, persistent, perfecting, refining, accurate, focus on quality, precision, refinement, faultless, meticulous.
		Examples of attending to detail: housekeeping, storage of tools, working within tolerances, detail of drawings, drawings and documentation are accurate, attention to accuracy during work, thinking about and attending to specific requirements of the task, attention to detail in risk assessment and risk reduction/method statements.		
		There is superficial attention to detail. The drawings and documents show some inaccuracies or gaps. The clients' needs are interpreted in a generic rather than personal way with basic attention to their aims.	There is an adequate attention to detail – drawings and documentation are accurate. The candidate normally is aware of others when working and keeps work areas generally clean and tidy.	The candidate has been highly focused on the task showing extreme care in the accuracy and usability of drawings and document preparation. The candidate is conscientious in their work place and is aware of others working keeping their work area clean and tidy at all times

Section 3 Learner Materials

To prepare for this synoptic task I firstly will need to gather all of the correct tools and materials that are needed. Listed below is what I will need.

- I will firstly need to gather the correct amount of copper pipe I will need (Measured in mm)
- Scissor bender (For me to be able to do Passovers and bends essential for the task)
- Adjustable Wrench
- Single Clips x14
- Isolation valves (Hot and Cold continuation)
- Thermostatic radiator valve
- Pump valves
- Tape measure and a 60cm steel ruler
- Radiator x1
- Wash Basin x1
- Level x1
- Flux, solder and steel wool
- Blow torch x1
- Screwdriver
- Pencil and Rubber
- Speed fit Copper Tee
- Radiator brackets
- Service valves
- Heatproof mat and safety glasses
- Hot and Cold taps
- Trap valves

I will need to do a step by step on how I plan on completing the task (Part 1 will take about 2 hours and 30minutes).

- After gathering all of the equipment that is needed for the task I will lightly mark out the layout of the system with an h2 pencil, level and ruler (to make sure that all of the markings are accurate).
- When finished with all of the marking on the board I will mark out the clip space and place the clips where I have marked out for them to be placed.
- When the clips have been placed I will then rub out the lightly drawn lines, as the clips will act as a guideline for the pipework.
- After the pipe clips have been placed on the board I will then move on to hanging the radiator. To hang the radiator I will need two radiator clips to be able to hang the radiator on the wall. These radiator clips will need to be in the right place to make the measurements correct. The radiator needs to have a gap of 300mm to the ground from the bottom of the radiator. The radiator will have to be 600mm from edge of board to centre of radiator. From top of radiator to bottom of radiator it is 450mm.

  To do this you will need to mark out the centre of radiator and the height from the top of the radiator to the bottom of the board. I will then be able to see the top and bottom of the Radiator as I would've already known the height from bottom of the radiator to the bottom of the board. After knowing these measurements I should be able to see where the brackets will need to go, and screw them in to the correct places.

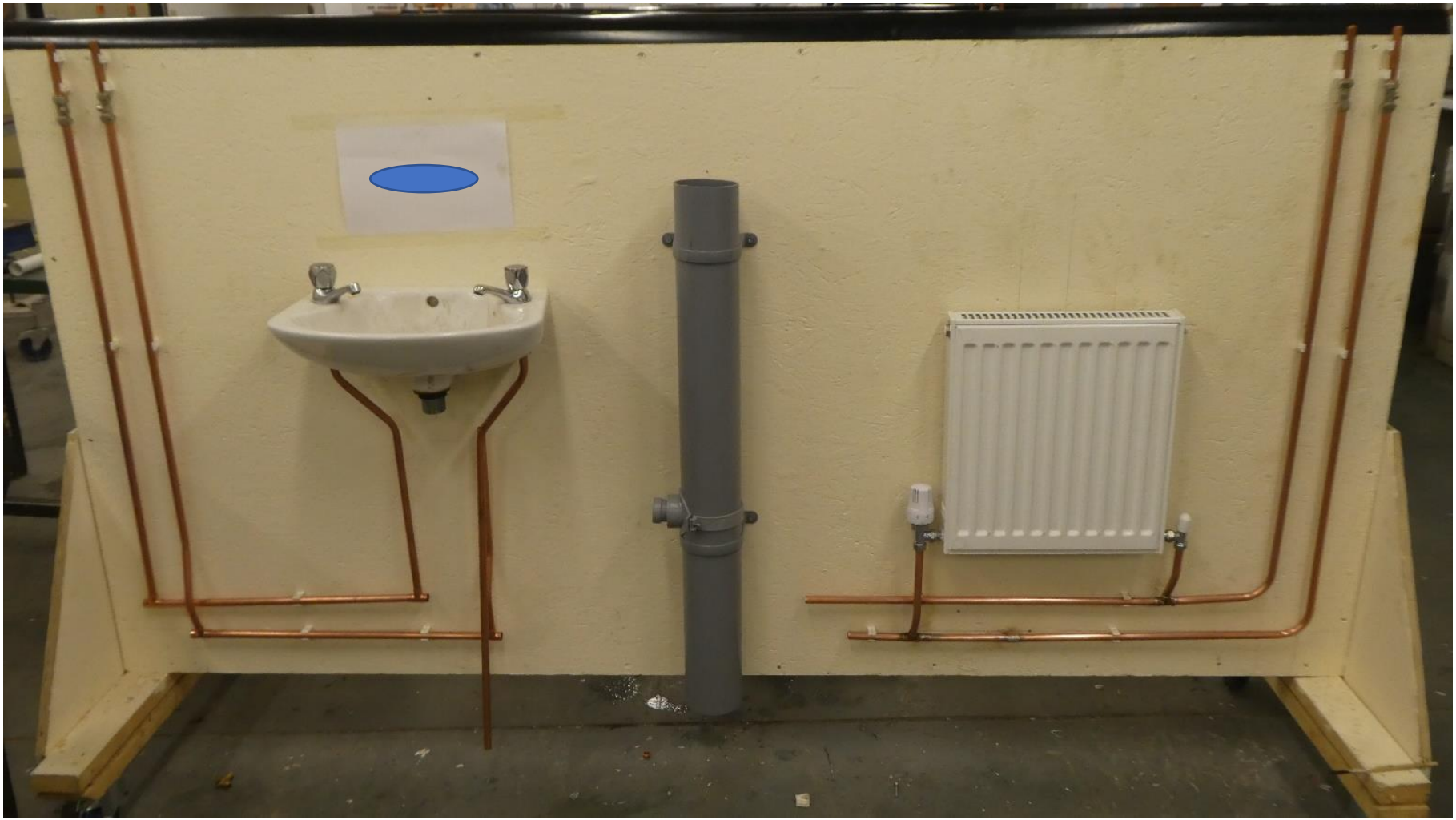
  - When the radiator brackets have been placed on the board I will place the radiator on to them and test if the measurements are correct, if not I will adjust the brackets to make sure that they are correct.
  - When the radiator brackets are sorted I will then move on to the pipework. From looking at the diagram I can see I need 2x 90 degree bends from the pipework coming from the service valves. To perform the 90 degree bends I will need to use the scissor bender. I will need to measure out the correct amount of coper pipe I will need. The first pipe needs to be 100mm from the bottom of the board and from this information I know where to put the second pipe as the gap in between the pipe needs to be 75mm. I will need to use two speed fit copper Tees one for the Passover of the first pipe going over the second pipe to the thermostatic radiator valve(20mm air gap) and one for the second pipe connecting to the radiators lock shield valve. (Make sure there is a 125mm gap between the radiator and the pipe when the pipework is finished)

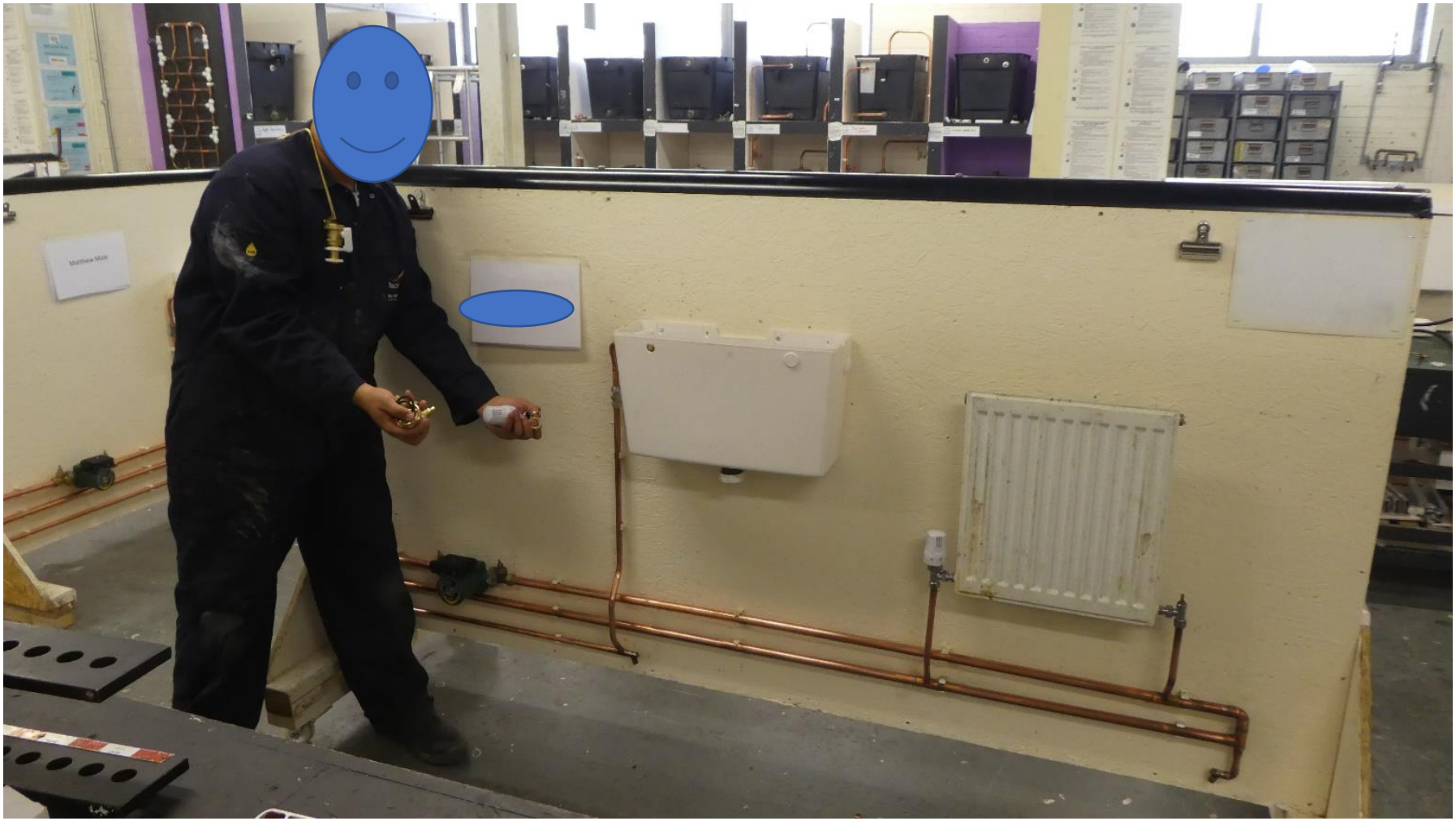
- When the pipe has been bent and fitted into the correct places then I can begin to solder the speed fit copper tees. I will need a blowtorch, protective glasses, a heatproof mat, solder and flux. Making sure the pipework and radiator are placed correctly and making sure all measurements are perfect.
- After soldering I will need to clean the copper pipe with steel wool and move on to the second part of the synoptic test.

<u>I will need to do a step by step on how I plan on completing the task (Part 2 3Hours and 30 minutes).</u>

- For the next task I will be putting the wash basin and washing machine onto the board, to start I will need to dress the wash basin (Putting on the taps and the sinkhole etc.).
- The pipe work for the wash basin contains a lot more Passovers to do, to make sure that the cold water pipe is always under the hot water pipe to stop heat transfer from occurring.
- Firstly I will need to put the wash basin on to the board, to do this I will need to place the clips in the correct place to hang the radiator and the following measurements will help me know where to place the clips to hang the wash basin.
- The clips will have to make it so the wash basin is 700mm from the edge of the board and 800mm from back of the wash basin to the floor
- With the pipework that needs to be connected to the wash basin I have to do 2 pass overs with a 20mm air gap, one Passover which is the hot water pipe needs to go over the cold water pipe then it will go into another 90 degree bend to carry on to the wash basin. The cold water pipe has one 90 degree bend (Time for the scissor bender).
- The hot water pipe needs to be 100mm from the floor and needs to have a 75mm gap between the cold water pipe.
- Two trap valves which are connecting the pipe to the wash basin and one washing machine valve which is coming from the cold water pipe needs two 90 degree bends.


Nathan Ford
RESPECT
RIGHT TO LEARN





Declaration of Authenticity

Candidate name candidate1 | Candidate number xxxxxxxx

Centre name another centre | Centre number xxxxxxxxx

Candidate:

I confirm that all work submitted is my own, and that I have acknowledged all sources I have used.

Candidate signature | Date

Tutor:

I confirm that all work was conducted under conditions designed to assure the authenticity of the candidate's work, and am satisfied that, to the best of my knowledge, the work produced is solely that of the candidate.

Tutor signature | Date

Has the candidate received any additional support in the production of this work?

Tick Yes ☐ No ☐

If the answer is yes, give details below and on a separate sheet if necessary.

Note:

Where the candidate and/or tutor is unable to, or does not confirm authenticity through signing this declaration form, the work will not be accepted at moderation and a mark of zero will be given. If any question of authenticity arises, the tutor may be contacted for justification of authentication.

8202-25 Practical Observation Form (PO)

Candidate name	**Candidate number zxzxz**
CANDIDATE candidate1	
Centre name nocentre1	**Centre number cxzzxc**

The evidence section in this PO form should consist of comments/notes that are used to record the ***qualities and details*** of performance to inform marking and moderation against the AOs; what is the candidate doing? How well are they performing? - Describe the evidence.

The form signposts how particular AO's are relevant to each task. These AO's are not a definitive list therefore if evidence for other AO's can be captured this should be recorded accordingly.

This PO form should **not be used** to assign marks per task as marks need to be applied holistically for each AO across all tasks within the assignment.
Use the Candidate Record Form (CRF) to record the final overview of the quality of performance and the overall marks for each AO.

This form should, along with all other candidate evidence, should be uploaded to the Moderation Portal if requested or as part of a sample.

See the Observation section above for details around the types of comments

Complete the tables below referring to the relevant marking grid found in the assessment pack. Do not allocate marks at this stage.

Task 1

The assessor should record their observations for Task 1 in the table below. See the Observation section above for details around the types of comments to add here. Information around tolerances can be found after this table.

Evidence and examples of AOs	Comments/notes
Replacing defect components **AO1 -** PPE, Health and Safety, component identification and layout, selection of tools and safety checks **AO2 -** Installation requirements, Installation methods, testing and decommissioning, materials and uses **AO3 -** Working with tools, equipment and materials, promoting health and safety, work methods, installation techniques **AO4 -** Applying knowledge and understanding to the tasks/ scenario, able to plan activities from information provided. Materials and techniques are used appropriately, correct sequence of operations carried out.	Candidate wore the correct PPE at all times during this assessment, worked in a mature manner promoting Health and safety. Candidate was given the assignment brief, he then asked for the relevant components to be replaced. Using a selection of tools that he had inspected for damage, he then preceded to replace the thermostatic radiator valve and float valve. Candidate had a problem taking the pump valves off the pump, due to them being overtightened, by another candidate. I loosened them for him. Then he changed the valves and washers. Candidate then cleaned his work area and discarded the faulty components.

Task 2

For this task, candidate evidence will be directly uploaded to the marking/moderation platform. Therefore, there is no need to provide comments around the candidate's work/performance on the form.

Evidence	**Assessment objectives Distinction**
Produce a plan, materials and equipment list for the proposed installation giving reasons for your choices.	AO1 AO2 AO5

Task 3

The assessor should record their observations for Task 3 in the table below. See the Observation section above for details around the types of comments to add here. Information around tolerances can be found after this table.

Evidence and examples of AOs	**Comments/notes**
Using access equipment **AO1 -** PPE, Health and Safety, types of access equipment **AO3 -** Working with equipment, promoting health and safety, work methods	Candidate wore the correct PPE at all times during this assessment, worked in a mature manner promoting Health and safety. He erected the extension ladder with his partner, and demonstrated he could use it in a safe and correct way. Candidate then demonstrated the correct safe use of a scaffold.

Task 4

The assessor should record their observations for Task 4 in the table below. See the Observation section above for details around the types of comments to add here. Information around tolerances can be found after this table.

Evidence and examples of AOs	Comments/notes
Carry out installation and decommissioning of a cloakroom **AO1 -** PPE, Health and Safety, component identification and layout, roles and responsibilities, types of access equipment, guidance material, heat transfer, backflow protection, selection of tools and safety checks, fixings. **AO2 -** Hazardous situations and PPE measures, hot, cold and drainage systems and layouts, Installation requirements, Installation methods, testing and decommissioning, materials and uses, SI unit. **AO3 -** Working with tools, equipment and materials, promoting health and safety, work methods, installation techniques, work practice, time management, economical use of materials, site safety, communication skills, accuracy and presentation **AO4 -** Applying knowledge and understanding to the tasks/ scenario, able to plan activities from information provided. Materials and techniques are used	Candidate was aware of health and safety at all times and was wearing the appropriate PPE. However, his work area was slightly messy at times. He correctly identified which tools he would be needing for the task. After which he examined them for any damage. CANDIDATE s time management was not great and he was very sluggish to get started. When he set his mind to it he showed that he has got some good hand tool skills and is good with a pipe bender. Candidate marked up and then added the clips, however they were not level, he then installed the radiator, which was level. He pulled the kicks, fitted the pipework and soldered the fittings. They were slightly messy and the pipework was a little askew He then turned his attention to the basin, again his clipping was not great. Candidate was running out of time and although he managed to pull all of his offsets and passovers pulled to a good standard. He didn't manage to

appropriately, correct sequence of operations carried out **AO5 -** housekeeping, storage of tools, working within tolerances, detail of drawings, drawings and documentation are accurate, attention to accuracy during work, thinking about and attending to specific requirements of the task, attention to detail in risk assessment and risk reduction/method statements.	complete the task and solder up, install the waste pipe, test and decommission.

Candidate Record Form

Technical qualifications

Level 2 Technical Certificate in Plumbing (8202-25)
Level 2 Plumbing- Synoptic assignment (8202-026)

Candidate name	Candidate number
CANDIDATE candidate1	
Centre name nocentre	**Centre number cxzzxc**

Marker Notes *– Please always refer to the relevant marking grid for guidance on allocating marks and make notes that describe the quality of the evidence and justification of marks. Expand boxes as required.*

AO1 – Recall - Recall of knowledge relating to the qualification LOs						
10%	1	2	3	4	5	6
AO1 Mark **3**	Candidate displayed a good knowledge of the subject, H&S, PPE, tools and access equipment.					

AO2 – Understanding - Understanding of concepts theories and processes relating to the LOs											
20%	1	2	3	4	5	6	7	8	9	10	11	12
AO2 Mark **5**	Candidate seemed to understand some of the concepts and theories of the course subject. Some of his work was slightly disjointed.											

AO3 – Practical/technical skills - Application of practical/technical skills																								
40%	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
AO3 Mark **13**	Candidate's practical and technical skills were pretty good, but he was easily distracted and his time management was poor. So he was unable to complete the installation tasks within the allotted time.																							

AO4 – Bringing it all together - Bringing it all together - coherence of the whole subject												
20%	1	2	3	4	5	6	7	8	9	10	11	12
AO4 Mark **5**	Candidate tried to use his knowledge and practical skills to good effect, but he was very sluggish upon starting the task and his poor time management prevented him from completing the installation.											

AO5 - Attending to detail/perfecting						
10%	1	2	3	4	5	6
AO5 Mark **3**	Candidate's attention to detail could have been better, his marking out and clipping was pretty poor, which affected the installation.					

Total = 29 marks

Candidate 2

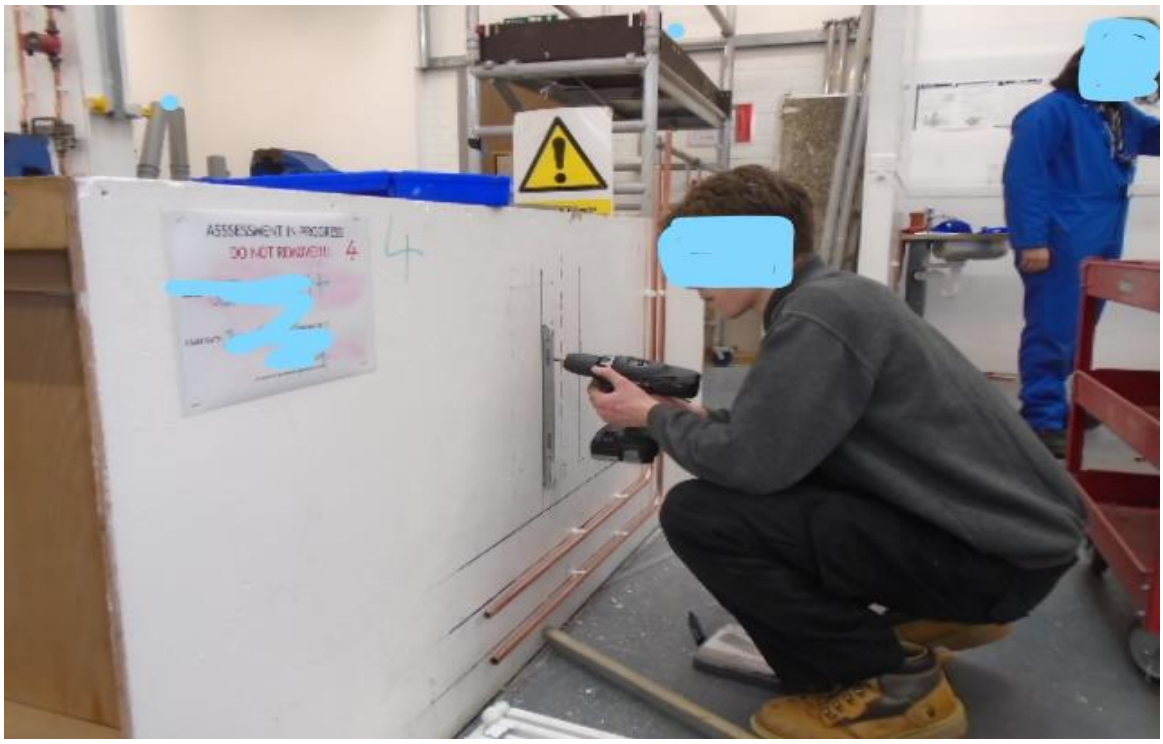
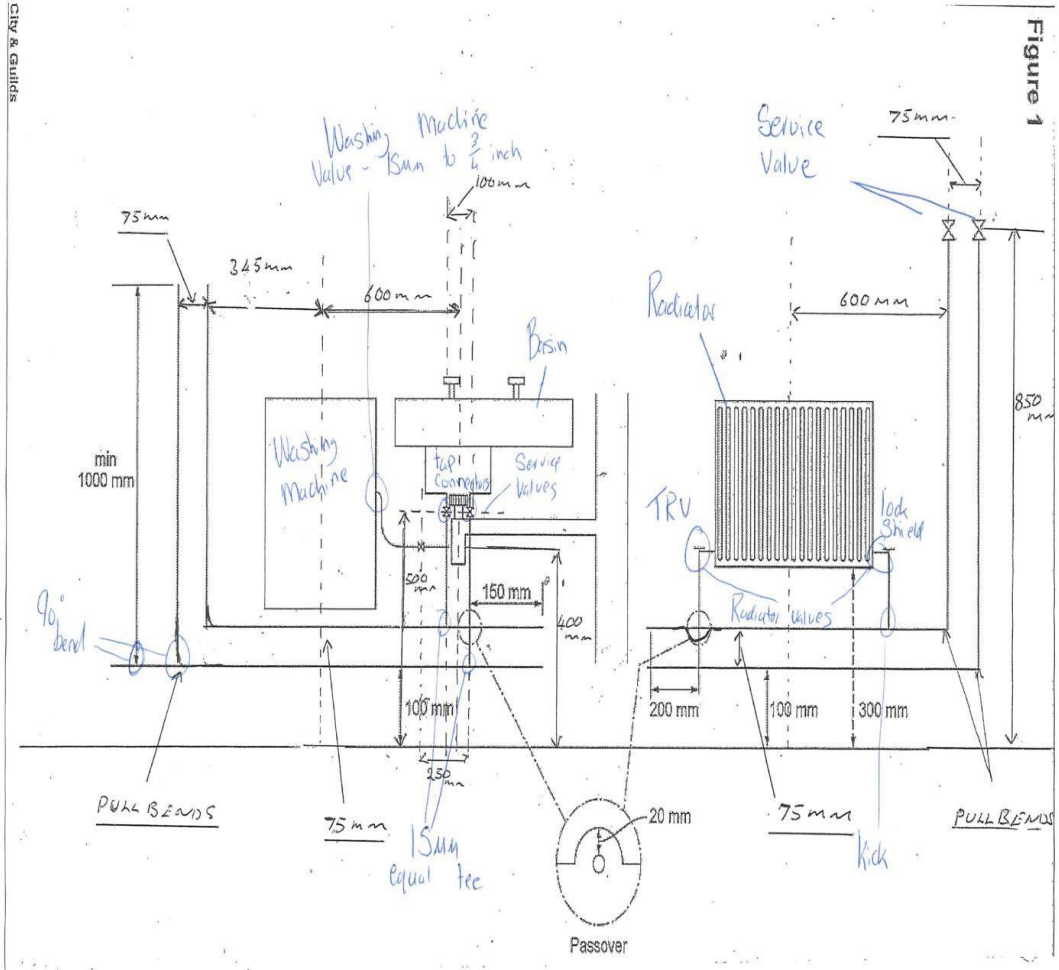


Figure 1



LEVEL 2 SYNOPTIC ASSIGNMENT 2018

Radiator assessment :

Step by step:

1) Ensure you have the correct PPE ; steel toe capped boots, hard hat, gloves, glasses etc.
2) Draw the frame in pencil on the work surface to the correct measurement's
3) Collect all pipework, fittings and necessary tools
4) Fit radiator brackets to hang the radiator upon on the correct position on the wall
5) Fit 15mm talon contract pipe clips to the correct measurement's and according to the photo specification
6) Measure and cut the copper pipe, then continue to pull any angles, kicks, or Passovers needed for the task
7) Erect the pipework and add the fittings
8) Tighten and double check fittings
9) Clean the pipework and apply flux, then solder pipework and fittings together
10) Pressure test your work to 5 bar
11) Drain down and decommission
12) Clean your work area
13) Recycle materials and report any tool damage

Tools & equipment	
Name	**Use**
Power drill	Used to fit the 15mm clips for the pipework
Spirit level	Insures all piping, components and radiators or basins are level and perfectly fitted
Pipe slice	Accurately cuts the 15mm copper
pencil	To mark on the work area and also be able to erase the drawing
blowtorch	Heats piping for soldering
Heat proof mat	Protects the wall against heat damage
flux	Jointing compound used to solder
solder	Permanently joins copper piping or fittings
Adjustable spanner	Tighten fittings
Pipe bender	Can manually create bends in pipes, or kicks and Passovers
ruler	Measurements and to create accurate Passovers

Flat head screwdriver	To open and close the service valve
Former guide	Helps form the bend in the pipe bender
Tape measure	Used to measure piping and insure the measurement's are correct

Fittings & components				
name	size	Quantity	Price + source	reasoning
equal tee	15mm	2	£4.44 - plumbase	It was specified in the drawing
Thermostatic radiator valve & lockshield	15mm	1 (of each)	£14.95 – Victorian plumbing	A necessity on most radiators
Service valve	15mm	2	£10.42 – travis perkins	Enables a worker to isolate the area for servicing or work
Drain off valve	15mm	1	£6.54 – Victorian plumbing	Used to drain the system before any work is undertaken
Radiator bracket	(H)500mm (W)50mm	2	£3.97 – B&Q	Needed to erect the radiator
clips	15mm	10	£2.30 - screwfix	Used to keep the pipework on the wall
Radiator	600 x 400 mm	1	£99.95 – Victorian plumbing	Emitts the heat

Risk assessment:

Soldering:

Avoid touching any objects that have come into contact with the hot flame for a substantial amount of time, this includes the head of the blowtorch itself. Carry a fire extinguisher and a heat blanket in case of a fire. Flux is an irritant so avoid contact with eyes and insure you wash hands after use to prevent contamination of any food you may consume after.

PPE:

Ensure the correct PPE is being worn at all times. Steel toe capped boots would prevent a broken foot In the event of the radiator or any hard objects falling. A hard hat would prevent any falling objects from injuring the worker below.

Trip hazards:

Inspect the bay for any trip hazards and during the assessment I kept the work area clear. Keep floor dry to prevent any slips.

Basin Assessment

Step by step:

1) Ensure you have the correct PPE ; steel toe capped boots, hard hat, gloves, glasses etc.

2) Draw the frame in pencil on the work surface to the correct measurements

3) Collect all pipework, fittings and necessary tools

4) Measure from the centre line to the brackets and erect the brackets and basin in according to the specification

5) Fit 15mm talon contract pipe clips to the correct measurement's and according to the photo specification

6) Measure and cut the copper pipe, then continue to pull any angles, kicks, or Passovers needed for the task

7) Erect the pipework and add the fittings

8) Tighten and double check fittings

9) Clean the pipework and apply flux, then solder pipework and fittings together

10) Pressure test your work to 5 bar of pressure

11) Drain down and decommission

12) Clean your work area

13) Recycle materials and report any tool damage

Tools & equipment	
Name	Use
Power drill	Used to fit the 15mm clips for the pipework
Spirit level	Insures all piping, components and radiators or basins are level and perfectly fitted
Pipe slice	Accurately cuts the 15mm copper
pencil	To mark on the work area and also be able to erase the drawing
blowtorch	Heats piping for soldering
Heat proof mat	Protects the wall against heat damage

flux	**Jointing compound used to solder**
solder	**Permanently joins copper piping or fittings**
Adjustable spanner	**Tighten fittings**
Pipe bender	**Can manually create bends in pipes, or kicks and Passovers**
ruler	**Measurements and to create accurate Passovers**
Flat head screwdriver	**To open and close the service valve**
Former guide	**Helps form the bend in the pipe bender**
Tape measure	**Used to measure piping and insure the measurements are correct**

Fittings & components				
name	**size**	**Quantity**	**Price + source**	**reasoning**
equal tee	**15mm**	**2**	**£4.44 - plumbase**	**It was specified in the drawing**
Thermostatic radiator valve & lockshield	**15mm**	**1 (of each)**	**£14.95 – Victorian plumbing**	**A necessity on most radiators**
Service valve	**15mm**	**2**	**£10.42 – travis perkins**	**Enables a worker to isolate the area for servicing or work**
Washing machine valve	**15 to 34mm**	**1**	**£1.59 - screwfix**	**Connects the pipework to the washing machine**

Radiator bracket	**(H)500mm** **(W)50mm**	**2**	**£3.97 – B&Q**	**Needed to erect the radiator**
Tap connectors	**15mm**	**2**	**£6.38 - screwfix**	**connects pipe work to taps**
clips	**15mm**	**11**	**£2.30 - screwfix**	**Used to keep the pipework on the wall**

Risk assessment:

Soldering:

Avoid touching any objects that have come into contact with the hot flame for a substantial amount of time, this includes the head of the blowtorch itself. Carry a fire extinguisher and a heat blanket in case of a fire. Flux is an irritant so avoid contact with eyes and insure you wash hands after use to prevent contamination of any food you may consume after.

PPE:

Ensure the correct PPE is being worn at all times. Steel toe capped boots would prevent a broken foot In the event of the radiator or any hard objects falling. A hard hat would prevent any falling objects from injuring the worker below.

Trip hazards:

Inspect the bay for any trip hazards and during the assessment I kept the work area clear. Keep floor dry to prevent any slips.

Candidate Record Form

Technical qualifications Level 2 Technical Certificate in Plumbing (8202-25) Synoptic assignment (8202-026)

Candidate name	**Candidate number**
Candidate2	xxxxxxxx
Centre name	**Centre number**
nocentre	cxzzxc

***Marker Notes** – Please always refer to the relevant marking grid for guidance on allocating marks and make notes that describe the quality of the evidence and justification of marks. Expand boxes as required.*

AO1 – Recall - Recall of knowledge relating to the qualification LOs

10%	1	2	3	4	5	**6**

AO1 Mark 6	Standardised questions were asked and answers were recorded on the attached sheets to gauge the candidates recall and breadth of knowledge of the Learning Outcomes Planning was taken into consideration based on the quality of work produced by the candidate. See Uploaded Documents

AO2 – Understanding - Understanding of concepts theories and processes relating to the LOs

20%	1	2	3	4	5	6	7	8	9	10	**11**	12

AO2 Mark 11	Over the three relevant tasks the candidate was able to explain and clearly justify the reasons for his actions. All decisions made when solving small problems were done so in a confident manner which led to no material wastage or loss of time. When questioned, the candidate made clear and logical links to Learning Outcomes relating to the course content. Overall the candidate has shown consistently strong understanding of the industry concepts and theories from the qualification.

AO3 – Practical/technical skills - Application of practical/technical skills

40%	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	**21**	22	23	24

AO3 Mark 21	The candidate showed confidence in his practical ability and took great care when solving small problems. In Task 4 there were no inaccuracies in measurements and no wastage of materials. The candidate installed the appliances and pipework with excellent ability and there were no measurements that were out of tolerance. The candidate was particularly good at using the machine bender effectively. There was a plan put in place which meant the job was not rushed. The overall presentation of the Task 4 installation was to a high standard and proved the candidate has highly developed practical skills. The candidate worked confidently throughout all of the relevant tasks and there were no inconsistencies for this Assessment Outcome.

AO4 – Bringing it all together - Bringing it all together - coherence of the whole subject

20%	1	2	3	4	5	6	7	8	9	10	**11**	12

AO4 Mark 11	The candidate completed the relevant tasks for this outcome and used initiative to see the correct sequence of operations to be carried out. The candidate avoided any inaccuracies by looking ahead at the bigger picture and therefore the allocated time was used very well. The candidate was exceptional at prioritising the parts of the tasks that would take more time which allowed him to focus on bringing theory and practical knowledge together. In the end the tasks were completed and the candidate demonstrated absolute consolidation of theory and practice.

AO5 - Attending to detail/perfecting

10%	1	2	3	4	**5**	6

AO5 Mark 6	During Task 4 the candidate showed meticulous care when fabricating pipework and was focused whilst performing all procedures. The finished product for Task 4 was cleaned up using the correct procedures and looked faultless. The candidate took pride in his work when doing the tasks and there was a lot of attention to detail throughout. The documents and plans provided by the candidate were to a high standard and focused on quality.

Total = 54

8202-25 Practical Observation Form (PO)

Candidate name	Candidate number
Candidate 2	aaaaaaaaa
Centre name	**Centre number**
Another1	xzxzxz

The evidence section in this PO form should consist of comments/notes that are used to record the ***qualities and details*** of performance to inform marking and moderation against the AOs; what is the candidate doing? How well are they performing? - Describe the evidence.

The form signposts how particular AO's are relevant to each task. These AO's are not a definitive list therefore if evidence for other AO's can be captured this should be recorded accordingly.

This PO form should **not be used** to assign marks per task as marks need to be applied holistically for each AO across all tasks within the assignment. Use the Candidate Record Form (CRF) to record the final overview of the quality of performance and the overall marks for each AO.

This form should, along with all other candidate evidence, should be uploaded to the Moderation Portal if requested or as part of a sample.

See the Observation section above for details around the types of comments

Complete the tables below referring to the relevant marking grid found in the assessment pack. Do not allocate marks at this stage.

Task 1

The assessor should record their observations for Task 1 in the table below. See the Observation section above for details around the types of comments to add here. Information around tolerances can be found after this table.

Evidence and examples of AOs	Comments/notes
Replacing defect components **AO1 -** PPE, Health and Safety, component identification and layout, selection of tools and safety checks **AO2 -** Installation requirements, Installation methods, testing and decommissioning, materials and uses **AO3 -** Working with tools, equipment and materials, promoting health and safety, work methods, installation techniques **AO4 -** Applying knowledge and understanding to the tasks/ scenario, able to plan activities from information provided. Materials and techniques are used appropriately, correct sequence of operations carried out.	Candidate2 wore the correct PPE and selected the correct tools for the task. He was able to identify all components and had very good knowledge of the working parts of each component. He carried out the relevant safety checks and had an excellent understanding of the correct processes and procedures to follow. Candidate2 understood the procedure for removing the pump valves and was competent in carrying out all of the elements of the Task. He had detailed knowledge of the decommissioning procedure and managed to complete it with no leakage or disruption to the plumbing systems. Candidate2 used the correct tools in a safe manner and kept the work area clean and tidy. He followed the correct steps and was methodical in his installation techniques. He applied knowledge from theory classes to carry out the task more efficiently. Candidate2 understood what was required in this task after the initial briefing. The pump valves, Radiator Valve, and F.O.V were all replaced in the given time and in the correct sequence. There was no leakage and there was a professional attitude shown throughout.

Task 2

For this task, candidate evidence will be directly uploaded to the marking/moderation platform. Therefore, there is no need to provide comments around the candidate's work/performance on the form.

Evidence	Assessment objectives Distinction
Produce a plan, materials and equipment list for the proposed installation giving reasons for your choices.	AO1 AO2 AO5

Task 3

The assessor should record their observations for Task 3 in the table below. See the Observation section above for details around the types of comments to add here. Information around tolerances can be found after this table.

Evidence and examples of AOs	Comments/notes
Using access equipment **AO1 -** PPE, Health and Safety, types of access equipment **AO3 -** Working with equipment, promoting health and safety, work methods	Candidate2 was asked standardised questions with regards to access equipment and his answers were recorded for grading purposes. He was able to answer all of the questions very competently. Correct PPE was chosen and worn for the task and safe working practices were demonstrated. Candidate2 did the relevant checks on the access equipment and had detailed knowledge of Working at Heights Regulations. He completed the Task in a safe manner and worked in a methodical and responsible manner throughout.

Task 4

The assessor should record their observations for Task 4 in the table below. See the Observation section above for details around the types of comments to add here. Information around tolerances can be found after this table.

Evidence and examples of AOs	Comments/notes
Carry out installation and decommissioning of a Utility Room **AO1 -** PPE, Health and Safety, component identification and layout, roles and responsibilities, types of access equipment, guidance material, heat transfer, backflow protection, selection of tools and safety checks, fixings. **AO2 -** Hazardous situations and PPE measures, hot, cold and drainage systems and layouts, Installation requirements, Installation methods, testing and decommissioning, materials and uses, SI unit. **AO3 -** Working with tools, equipment and materials, promoting health and safety, work methods, installation techniques, work practice, time management, economical use of materials, site safety, communication skills, accuracy and presentation **AO4 -** Applying knowledge and understanding to the tasks/ scenario, able to plan activities from information provided. Materials and techniques are used appropriately, correct sequence of operations carried out	Candidate2 showed extremely good knowledge of the Health and safety requirements for this Task and wore the correct PPE throughout. He selected the correct materials and knew the names of all of the fittings and appliances. He was asked standardised questions with regards to Hot, Cold and Central heating systems and answered all of the questions correctly. Candidate2 showed a consistently strong understanding of the hot, cold, and drainage layouts from the given diagram and made links between theory and practical. From the given diagram he fitted, tested and decommissioned the components and fittings to a very high standard. Candidate2 used the correct tools and selected the correct fittings to complete the task. There were no inconsistencies with measurements. Great care was taken whilst doing the machine bends and they were to a high standard. Candidate2 showed really good ability when using the machine bender. Soldering was done to a very high standard and was water tight. He completed the entire job in the given time and proved that his practical skills are highly developed. Time was managed very well and he managed to complete, test and decommission the installation within the allocated time to a high standard. The job was carried out in the correct sequence and he showed a lot of initiative to solve small problems. At the beginning he made a plan and carried this out effectively throughout all of the task. There was no wastage of material due to inaccurate bending and measuring. During the decommissioning there was a lot of care taken in the recycling of copper for re-use.

AO5 - housekeeping, storage of tools, working within tolerances, detail of drawings, drawings and documentation are accurate, attention to accuracy during work, thinking about and attending to specific requirements of the task, attention to detail in risk assessment and risk reduction/method statements.	Housekeeping and storage of tools during the task was very good and he was considerate of classmates working around him. All of the work was accurate and all of the tolerances were achieved for the job specification. Due to the fact that he followed a plan there was time to pay plenty of attention to detail such as: cleaning of solder joints and overall presentation. The overall product looked professional and precise.

Section 5 Principal Moderator's guidance, hints and tips.

This practise marking material has been produced to be used for standardisation activities and for centre guidance in the early years of the qualification. The marks allocated to each learner are in accordance with the Principal Moderator marks and show the standard set for this qualification.

To make holistic judgments, it is necessary to ensure that all tasks are completed and submitted prior to assigning any final marks. Practical tasks are not marked independently of written submissions so ensure that all tasks have been completed before assigning any marks.

When judging ephemeral performances / practical skills, centres must ensure that the evidence is in a format visible to the marker/moderator and gives sufficient qualitative detail to aid moderation. Observers and markers should ensure their notes are comprehensive, employing key words written in the marking grids and describing how, where or why the work is good or better. Along with this they should ensure that any verbal questions are documented and that weaknesses / mistakes as well as strengths / exemplary practice are noted on the PO form. These notes will enable the centre marker and the moderator get a feel for the practical skills shown by each individual on the synoptic assessment day/s and will assist in allocation of marks and rank ordering. Whilst the centres are allowed to submit any evidence to support the learner's tasks completion, it should be noted that candidate evidence that does not directly link to the assessment objectives cannot be used or marks awarded.