

## Unit Standard **30476**

### **Demonstrate knowledge of tools and equipment used in the motor industry**

Level 2 Credit 2 v1

**Student Name:**

**School:**

**Date:**

**Marked By:** \_\_\_\_\_ **Mark** \_\_\_\_\_ **%**

**Feedback:**      **Excellent work**       **Please attempt all questions**   
                         **Good work**       **Please resubmit**

## **USEFUL WEBLINKS**

### **Handtools and equipment**

<http://youtu.be/o99aKu2wyjA>

<http://youtu.be/ZqJIaXXLAvs>

<http://youtu.be/JfqbzNmR7cc>

### **Measuring tools**

<http://youtu.be/JX8gHdNpamk>

### **Hoists**

[http://youtu.be/N3R\\_8889p3g](http://youtu.be/N3R_8889p3g)

### **Diagnostic**

<http://youtu.be/PaOwZXrKxP0>

### **Multimeters**

<http://youtu.be/0xETtylidWU>

### **Taps and dies**

<http://youtu.be/KVnN4jiB7Gk>

### **DTI**

<http://youtu.be/ZCJSqNOB-k0>

### **Feeler gauges and straight edge**

[http://youtu.be/JvZPZoIIdAQ?list=PLRCx\\_VVzck4uAr59XQqRPHQ8hjE7ruazu](http://youtu.be/JvZPZoIIdAQ?list=PLRCx_VVzck4uAr59XQqRPHQ8hjE7ruazu)

### **Reading a Micrometer**

<http://youtu.be/O8vMFFYNifo>

### **Torque wrenches**

<http://youtu.be/5XzKvEnk1FY>

### **Vernier Caliper**

<http://youtu.be/VOar5f3LfZs>

### **Caring for handtools**

[http://youtu.be/VgVLRbs1\\_eg](http://youtu.be/VgVLRbs1_eg)

## REVIEW QUESTIONS ONE

Q1 Name three types of hammers designed for striking metal objects.

Q2 What tool should be used to form a stud hole in a gasket?

Q3 What is a drift used for?

Q4 When should a Phillip's screwdriver be used?

Q5 Explain how spanners are measured.

Q6 When should you use an open-end spanner?

Q7 How many sides does a double hexagon deep socket have?

Q8 Complete the following table.

TASK	TOOL
Removing a spring loaded clip	
Clamping a brake hose	
Installing a rivet	
Stripping the plastic sleeve from electrical wire	

Q9 What tool would you use to remove gasket material from components?

Q10 What is the purpose of a thread gauge?

Q11 What tool should be used to reshape an external damaged thread?

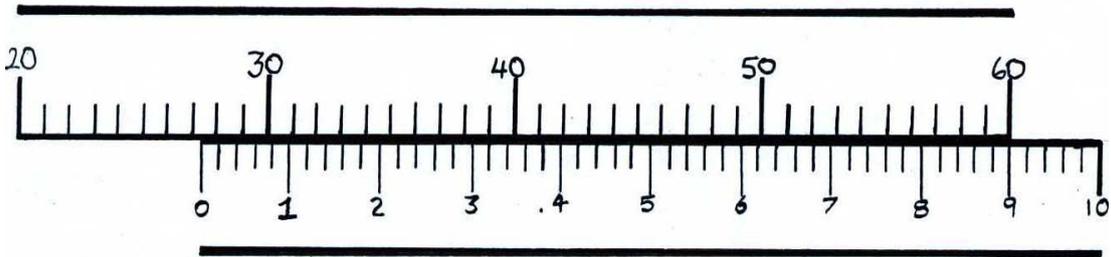
Q12 What type of hacksaw blade would you use to cut soft metal objects?

Q13 What tool would you use to form an initial thread in a blind hole?

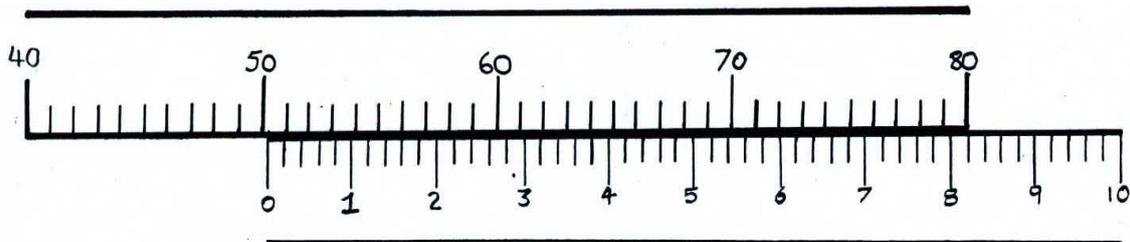
Q14 What tool should you use to remove burrs from holes?

## REVIEW QUESTIONS TWO

Q15 Give the readings for each of the following.

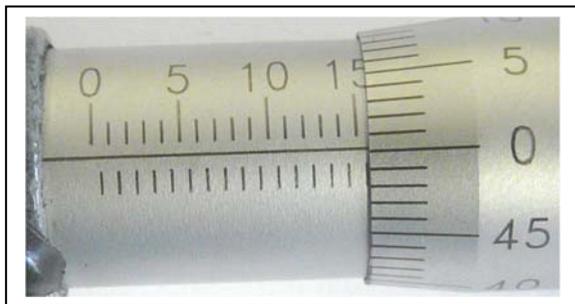


Total Reading



Total reading

### Outside Micrometer



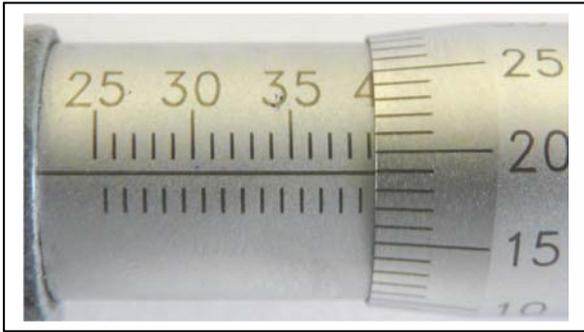
Upper scale

Lower scale

Thimble

Reading

### Outside Micrometer



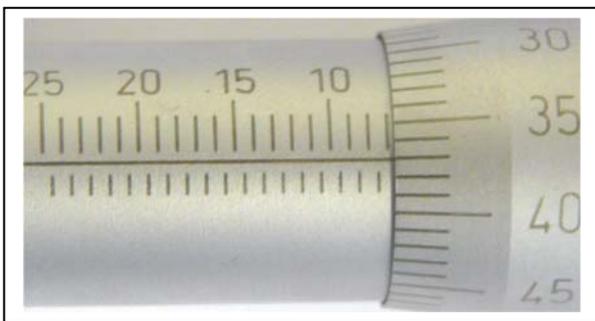
Upper scale

Lower scale

Thimble

Reading

### Internal Micrometer



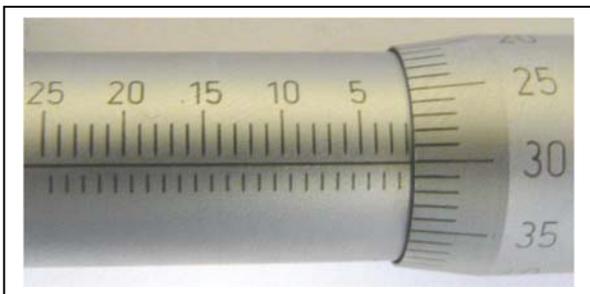
Upper scale

Lower scale

Thimble

Reading

### Internal Micrometer



Upper scale

Lower scale

Thimble

Reading

- Q16 List 5 general rules to be considered when using measuring tools:
- Q17 What tool should be used to measure the bottom of a cylinder bore?
- Q18 What does a DTI gauge measure?
- Q19 What does a ball gauge measure?
- Q20 What tools should be used to measure warpage on a cylinder head?
- Q21 When working on electrical components what type of a feeler gauge should be selected?
- Q22 What is a Go No Go feeler gauge?
- Q23 What precision tool is used to measure the depth of a hole?

Q24 What two temperature measurement scales are used to indicate coolant temperature?

Q25 What type of gauge should be used to determine the pressure in an engine cylinder?

Q26 Name two commonly used scales of measurement indicated on a torque wrench?

Q27 What does a torque angle gauge measure?

Q28 What should you use to measure a 45 degree angle?

Q29 What measuring tool is used when measuring the amount of effort required to rotate a component?

Q30 What measuring tool can be used to measure the diameter of a cylinder bore where access is restricted?

Q31 Name four automotive electrical systems that can be tested using a multimeter.

### REVIEW QUESTIONS THREE

- Q32 When using a trolley jack, what equipment must be in place before attempting to work under a vehicle?
- Q33 List two safety precautions that must be observed before operating a drill press?
- Q34 What precautions must be taken when using electrical hand tools?
- Q35 What is the purpose of a battery charger?
- Q36 Name the air tools commonly found in an automotive workshop
- Q37 What precautions must be taken when using lubricating equipment?

Q38. Match up each tool with its appropriate maintenance procedure. Please enter the number that matches the letter in the grey space provided.

	Tool			Maintenance Procedure
A	Adjustable wrenches and spanners	<b>A10</b>	1	Remove filings from the blade and check handle for security.
B	Chisels		2	Remove dirt, grime and grease. Ensure that the handle is in good condition and check for loose head or split handle.
C	Files		3	Remove dirt, grime and grease. Calibrate and store in original container. Check socket head attachment for wear.
D	Hacksaws		4	Remove dirt, grime and grease. Check the blades for damage. Damaged blades will produce inaccurate readings
E	Punches		5	Remove dirt, grime and grease. Ensure tip is free from damage and that the shank is secure in the plastic handle grip.
F	Hammers		6	Remove dirt, grime and grease. Sharpen edges as required.
G	Screwdrivers		7	Remove dirt, grime and grease. Check spindle operates freely and use zeroing gauges to calibrate.
H	Feeler gauges		8	Remove any burrs and maintain the head to avoid slip off.
I	Micrometers		9	Ensure blade is in good condition and is secure and correctly tensioned
J	Torque wrenches		10	Remove dirt, grime and grease. Check jaws for wear.

Q39 What piece of equipment should be used to clean a cylinder head, from the list below?

- Q40 Which piece of equipment should be used to sharpen a centre punch?
- Q41 Outline the safety precautions to be observed before when using a bench grinder.
- Q42 What is the purpose in using a hydraulic press?
- Q43 Explain how a plastic welding gun operates.
- Q44 On which piece of equipment are you most likely to find a bead breaker?
- Q45 What does a high reading of carbon monoxide from an exhaust gas analyser indicate?
- Q46 To correct dynamic unbalance of a tyre, what piece of equipment should be