# PREPARING FOR THE THE EVALUATION EXAM

INSTRUCTIONS FOR APPLICANTS TO APPRENTICESHIP

## ABOUT THE EXAM

### WHAT WILL THE EXAM COVER?

*Exam Layout*

*Sample Questions*

*Test Taking Tips*

### HOW TO EVALUATE YOUR WORK

### WHERE TO GET HELP

This document was created by BC Construction Industry Skills Improvement Council *SkillPlan* in partnership with the Sheet Metal Training Centre.

The exam is for evaluation purposes only and is used to determine if a pre-apprentice will need math upgrading when he/she is later converted to a registered apprentice. No pass/fail.

| PART | TOPIC | MARKS |
|---|---|---|
| Part 1 | Math without a calculator:<br>basic calculations<br>knowledge of perimeter, area, volume | 27 marks |
| Part 2 | Math Problems | 18 marks |
| Part 3 | Measurement and Conversions | 10 marks |
| Part 4 | Written Communication: Reading, Writing, Sketching:<br>text, point form, charts, sketches and schematics | 33 marks |
| Part 5 | Trade Knowledge and Applied Science<br>tools<br>spatial perception | 12 marks |
| | Total marks | 100 marks |

QUESTION FORMAT

Multiple choice questions account for approximately 75% of the marks of the exam. On the remainder of the exam you will be asked for

- point form answers
- sentence answers
- sketches and diagrams

You will find examples of some of these styles of questions in this manual.

WRITING THE EXAM

You are responsible to bring the tools to do the job:

- pencil and eraser
- calculator that you are familiar with, one that does not require a plug-in
- ruler or straight edge

TIME

You will have 2 hours to write the exam. If you find the material familiar, this will be a comfortable amount of time and should allow 15 minutes to check your answers.

## WHAT WILL THE EXAM COVER?

| | | |
|---|---|---|
| Part 1 | Math without a calculator:<br>basic calculations<br>knowledge of perimeter, area, volume | 27 marks |
| Part 2 | Math Problems | 18 marks |
| Part 3 | Measurement and Conversions | 10 marks |

On the first section of the exam you are expected to calculate with pencil and paper or in your head. This section covers basic math skills and knowledge you will need on the job and in classes, often for estimating answers prior to checking with a calculator. When you have completed the first section and handed it in, you are free to use your calculator as needed on the rest of the exam.

The following is a list of math skills that are needed for success in apprenticeship:

- adding, subtracting, multiplying, dividing
  - whole numbers, - fractions, - decimals
- rounding off
- finding per cent
- powers and roots ($n^2$, $n^3$, $\sqrt{}$)
- ratio and proportion
- measurement: lengths, temperature in metric and Imperial
- perimeter, area, volume
  - rectangle, - circle, - triangle
- finding the side of a right triangle
- solving basic formulas
- problem solving
- using a calculator: basic functions, percentage, square root, memory

SAMPLE QUESTIONS (WITHOUT CALCULATOR)

1. $6049 \div 43 =$
2. What formula would you use to calculate the area of a circle?

SAMPLE PROBLEM QUESTIONS (WITH CALCULATOR)

1. Two apprentices carry 8 sheets of metal from the unloading dock to the shop table. They carry one sheet at a time. It takes 3 minutes to carry the first sheet, 2 minutes to carry each of the next six sheets, and when they stop to talk to the Journeyperson, 5 minutes to carry the last sheet. What is the average time spent carrying each sheet?
2. Use your sketch of the T from page 4, question 3 to calculate the area of the T piece.

| Part 4 Written Communication: Reading, Writing, Sketching: text, point form, charts, sketches, schematics | 33 marks |
|---|---|

In this section, you will be asked to read for meaning. You will be getting information from charts and sketches as well as from sentences and paragraphs. Some questions have multiple choice answers, for others you will be asked to write in point form, in sentences, or to sketch. To answer some questions, you will be asked to make inferences or draw conclusions.

SAMPLE QUESTIONS

Read the paragraphs and answer the questions following:

*One of the main disadvantages of iron is that it reacts quite easily with other chemicals, such as acids, air and water, to form iron salts or oxides. This is known as corrosion.*

*The most common form of corrosion is, of course, rust. Rust is a form of the chemical iron oxide (ferric oxide). The rusting process is similar to the process that takes place inside an electric cell of a battery.*

1. What other process can be compared to the rusting process?
   a) corrosion
   b) reaction of iron with other chemicals
   c) the process in an electric cell
   d) the formation of iron oxides

2. Write, in point form, the main facts of the paragraphs above.

3. A T-shaped piece of metal is made up of two rectangles. Using the back of this page, sketch the piece showing a top (horizontal) section that measures .5 metres x .25 meters and a vertical section that measures .6 metres x .30 metres. Label the dimensions on your sketch. Remember, a sketch is not to scale.

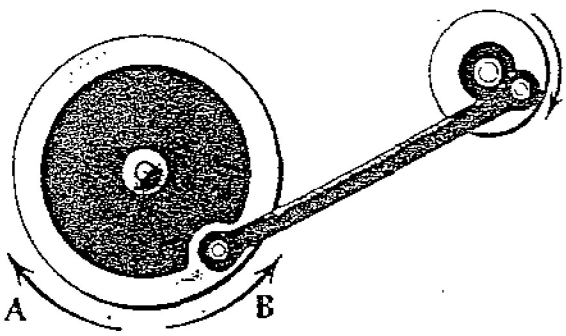
| | |
|---|---|
| Part 5 Trade Knowledge and Applied Science<br>tools<br>spatial perception | 12 marks |

This section of the exam gives you a chance to demonstrate some general knowledge and how you can put things together. You do not need experience in the sheet metal trade to succeed on this section.

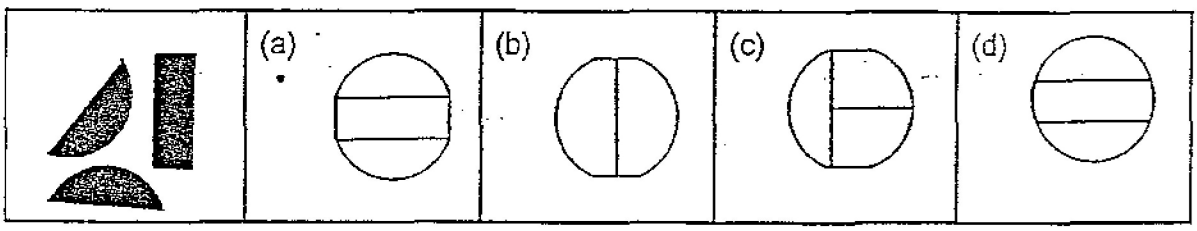
SAMPLE QUESTIONS

1. When the small wheel is turned around in the direction indicated, the big wheel will

a) turn in direction A.
b) turn in direction B.
c) not turn in either direction.
d) move back and forth.




2. What figure will be formed when the pieces on the left are fitted together?




3. A lubricant such as oil is used to overcome

a) friction.
b) inertia.
c) gravity.
d) mass.

## TEST TAKING TIPS

In preparing for this exam you are practising some of the skills needed in apprenticeship. Your work attitude and ability to follow instructions, to be punctual and organized, contribute to your success on this test.

WEEKS BEFORE THE TEST ASK YOURSELF:

Do I have a positive attitude toward the test?
Do I have the confidence that comes with good preparation?
Have I read this booklet and completed the sample questions?
Which math skills do I have?
Which skills do I need to review?
Which skills do I need to develop?
Which resources, people and books, am I using to prepare?
(see WHERE TO GET HELP)

KNOW ABOUT THE EXAM:

Where is the exam? When? (Plan to arrive 15 minutes early.)
What do I need to bring? (pencil, eraser, pen, calculator, ruler, extra paper)

WRITING THE EXAM:

1. Do the first section without a calculator and hand it in before going on. Allow ABOUT 25 minutes for this section.
2. Read each question and answer carefully.
3. Scan the exam and answer the easiest questions first.
4. Note the questions you cannot immediately answer and continue with the exam.
5. Keep track of time. Avoid spending too long on any one question.
6. In multiple choice questions, eliminate obvious wrong answers. Try to reason out the best choice.
7. Mark the correct answer on the answer sheet. Be sure to match the number of the question with the number in the answer booklet.
8. Return to the questions you identified as difficult.
9. If you change an answer, erase the previous answer completely.
10. CHECK your answer. Make sure it is the one you meant to mark.

The skills tested by **the Evaluation Exam** need to be performed with ease so that you can concentrate on the many additional skills that you will learn in apprenticeship. When you prepare for the exam, keep in mind that you are aiming for at least 80% achievement in each area.

Practise and test your performance in each of the skill areas. For math, you can begin by doing practise tests in a comprehensive adult math text or the GED preparation book. Texts are available at college libraries and bookstores.

Reading and writing skills, as well as valuable student learning skills are covered in Becoming a Master Student by David B. Ellis, ISBN 0-942456-10-6.

You can research employability skills and write about your own approach to the workplace. This will be a review of some skills you will need to be a successful Apprentice, and practise in expressing your ideas on paper. Materials are available at most college and school employment programs and at Canada Employment Information Centres.

## WHERE TO GET HELP

Most adults have gaps in learning. For example, an individual may be very familiar with most math functions but never really understood fractions. Sometimes, working with a tutor for a short time will help to review what you know and fill in some of the learning gaps. More extensive work can be done if you enroll in a class. There are drop-in learning centres and volunteer tutor services in most communities and community colleges and school districts have adult upgrading classes.

▸▸▸ CALL

- Listings in the Yellow Pages of your telephone book under LEARN to find resources in your community.

- Sheet Metal Workers Training Centre,
  19077 95A Ave. Surrey B.C. | (604) 882-7680 | reception@smwtcs.ca

- *SkillPlan* BC Construction Industry Skills Improvement Council
  Telephone: (604) 436-1126 Fax: (604) 437-7539
  The organized sector of the construction industry, through *SkillPlan*, has an advisory service where you can discuss upgrading options.

GOOD LUCK!
The Sheet Metal Training Centre depends on your success in trades training to continue our tradition of Union quality.

# ANSWER KEY

Page 3

1. 140.674 or 140.67 or 140.7
2. Area = $\pi r^2$

1. 2.5 or 2 ½ minutes
2. .305 square meters

Page 4

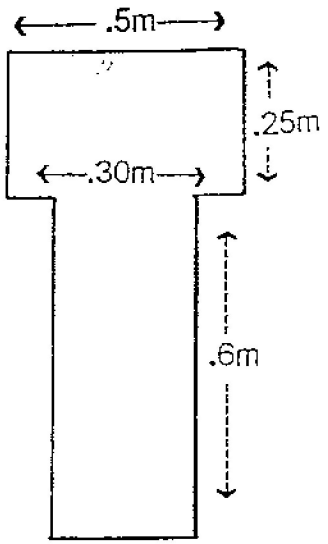
1. c)
2. Write, in point form, the main facts of the paragraphs above.
   - *Disadvantages*

*Reacts with acids, air, water*

- *Causes corrosion*

*Rust (iron oxide or ferric oxide)*
*Similar to process in electric cell of battery*

3. A T-shaped piece of metal is made up of two rectangles. Using the back of this page, sketch the piece showing a top (horizontal) section that measures .5 metres x .25 meters and a vertical section that measures .6 metres x .30 metres. Label the dimensions on your sketch. Remember, a sketch is not to scale.




Page 5

1. d) consider the distances between pivotal points and eccentric offsets
2. a)
3. a)