

Mathematics 11 AW Apprenticeship and Workplace

Page 1	General Information
Page 2	Record Chart
Page 3-4	Unit 7A & Unit 5A Test Sample
Page 5-7	Unit 4 Outline

Textbook

This course uses the textbook “MathWorks 11” ISBN 978-1-89576-692-9 by Pacific Educational Press at 1-877-864-8477. Price is about \$ 65.

Curriculum Outline

Unit 1 Graphical Representations	Unit 2 Financial Services
Unit 3 Personal Budgets	Unit 4 Measurement: Area, Volume, and Capacity
Unit 5 Slopes and Rate of Change	Unit 6 Trigonometry of Right Triangles
Unit 7 Scale Representations	

Structure

This course is generally designed with the self-paced student in mind. It is based on a mastery system in which the student must obtain an 80% on the tests. Each chapter has two versions in which the student has a chance to reach and or exceed the 80% mastery level.

Evaluation

There are 7 chapter tests which account for 70% of the final mark. There are 2 cumulative tests which account for 30% of the final mark.

Composition

The course is made up of:

7 Chapters Outlines,

7 Chapter Tests each with an A and a B version (14 tests), Plus (14 tests) Answer Keys

2 Cumulative Tests, Plus (2 Cumulative Tests) Answer Keys,

All Answer Keys have a suggested marking scheme,

All files are put on disk in pdf and MS Word,

A perpetual license for your school.

The entire paper course is placed in a binder along with the disk and shipped as one unit.

Cost: \$ 450.00. See Ordering

Mathematics 11 Apprenticeship and Workplace

Record Chart

Name:

Commencement Date:

Unit	Topic	Test A	Test B	Average	Date
1	Graphs: Representations				
2	Finances: Services				
3	Budgets: Personal				
Cumulative Test					
4	Measurements: Surface Area, Volume, and Capacity				
5	Slopes: Rate of Change				
6	Trigonometry: Right Triangles				
7	Scales: Representations				
Cumulative Test					

Course Evaluation

Course Evaluation	Total Marks	Out of	Percent	Value	Result
Tests (7)		335		70%	
Cumulative Tests (2)		130		30%	
Final Mark					

Math 11 AW Unit 7 Test A: Scales

Name _____ Date _____

Marks**50**

5

1. Match the best description on the bottom with the corresponding letter to the terms on the left.

_____ Component parts drawing

_____ Elevation

_____ View

_____ Exploded diagram

_____ Isometric drawing

_____ Perspective drawing

_____ Scale factor

_____ Scale statement

_____ Vanishing point

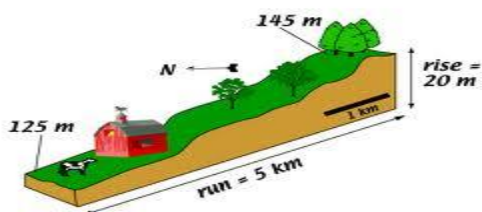
_____ Horizontal line

- A. In a perspective drawing, a point where parallel lines converge.
- B. A horizontal line that may not be visible.
- C. A ratio that expresses a size relationship.
- D. A number by which dimensions are enlarged or reduced.
- E. A drawing that shows one plane of an object.
- F. A drawing that shows the vertical plane of an object.
- G. Two-dimensional scale diagram that shows all parts of an object.
- H. A drawing of a 3-D object in 2-D whereby objects appear smaller with distance.
- I. A drawing of a 3-D object that shows the same scale for all lines.
- J. A drawing of a 3-D object that shows separated components but in their relative positions.

Math 11 AW Unit 5 Test A: Slopes

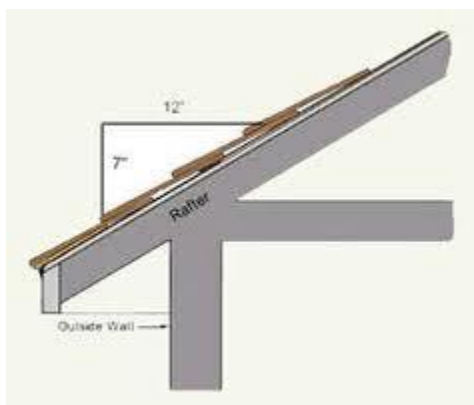
5. The following diagram shows a hillside. Determine the slope. If a road gets built on this hillside what would be the overall grade?

3



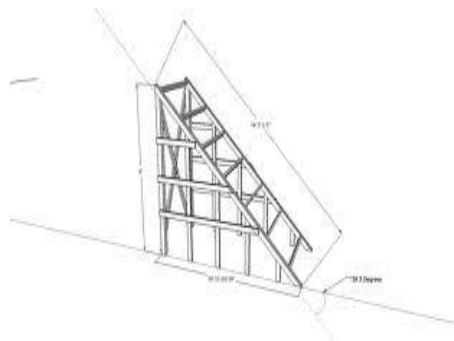
6. Determine the roof pitch in the diagram below.

1



7. The following snowboard ramp is being constructed to have a 30% grade based on Shaun White's specifications. The height is 3.5 metres. How long is the run? How long is the ramp? Keep answers to one decimal place.

4



Math 11 Apprenticeship and Workplace

Textbook: MathWorks 11 by Pacific Educational Press

Unit 4 Measurements: Surface Area, Volume, and Capacity

Goal: The goal of this chapter is to familiarize you with how to measure three dimensional objects.

Objectives: During this unit you will practice working on measurements in both the Imperial and Metric Systems as they apply to 3D objects and you will be exposed to different terms such as:

Cone, Sphere, Cylinder, Surface area, Dimensions, Volume, Prism, Capacity, Pyramid, Net, Lateral face, Base, Caliper, and Micrometer.

What Needs to be Done:

Unit 4 has 4 sections: 4.1, 4.2, 4.3, and 4.4 Each section in unit four has an accompanied video to enhance your understanding of the section material. There may be more than one video for a section.

Use the section-numbered videos below as they correspond in the **Unit Practice Guide** below to help you with your understanding.

Video Selections:

4.1 <http://www.youtube.com/watch?v=BX3r9KmWHUg>
Net Diagrams (14 min)

4.1 <http://www.youtube.com/watch?v=Pcjnz26pnwY>
Surface area of a rectangular prism (4 min)

4.2 <http://www.youtube.com/watch?v=qmeg0MKtaQg&feature=fvwrel>
Surface area of a sphere (2 min)

4.2 http://www.youtube.com/watch?v=mP8-F_JbnG4
Surface Area & Volume of a Rectangular Pyramid (10 min)

- 4.3 <http://www.youtube.com/watch?v=Cx4XDe8TUHM>
Volume of a Prism (1 min)
- 4.3 <http://www.youtube.com/watch?v=bON3X7UpFRE>
Volume of a cylinder (2 min)
- 4.4 <http://www.youtube.com/watch?v=zPd21solZw0>
Volume of spheres (2 min)
- 4.4 <http://www.youtube.com/watch?v=PcLAGuTvfpQ>
How to Find the Volume of a Cone (2 min)
- 4.4 <https://www.youtube.com/watch?v=kTuxdk6ar9Y>
Measurement and Gauging (2 min)
- 4.4 http://www.youtube.com/watch?v=rxIludCO_MM&feature=related
Measuring instruments for Physics - VERNIER RULER (4 min)

Unit 4 Practice Guide: (Check Mark as You Complete)

✓	Page	
	114	Read over this page
	116-117	Read over “Math on the Job” and “Explore the Math” and become familiar with the new terms.
	118	Read over “Discuss The Ideas” and become familiar with the 3 terms.
	119	Go over Example 1.
	120-12	Go over Example 2. Watch the video 4.1 Net Diagrams.
	122-123	Go over Example 3. Watch video 4.1 Surface area of a rectangular prism.
	124-126	Do # 1, 3, 4, 5, and 7.
	127-128	Read over “Math on the Job” and “Explore the Math” and become familiar with the 4 new terms.
	129	Go over Example 1.
	130	Go over Example 2.
	131	Read over “Discuss The Ideas”.
	132	Go over Example 3. Watch video 4.2 Surface area of a sphere.
	133	Go over Example 4. Watch video 4.2 Surface Area & Volume of a Rectangular Pyramid.
	134-135	Do # 1, 2, 4, and 5.

137	Read over “The Roots of Math”
138-139	Read over and become familiar with volume and capacity.
140	Go over Example 1. Watch video 4.3 Volume of a Prism.
141	Go over example 2. Watch video 4.3 Volume of a Cylinder
143	Go over Example 3.
144-145	Do # 1, 2, 3, 4, and 7.
147	Try the “Puzzle It Out”. The answer is greater than 4 but less then 10.
148-149	Read over “Math on the Job” and “Explore the Math”.
150	Go over Example 1. Watch video 4.4 Volume of Spheres
151	Go over Example 2. Watch video 4.4 How to Find the Volume of a Cone
152-153	Go over Using Micrometers and Calipers”. Know how to read the measurements. Watch video 4.4 Measurement and Gauging. Watch video 4.4 Measuring instruments for Physics - VERNIER RULER
154-155	Go over Example 3 and 4.
156-158	Do # 1, 2, 3, 4, and 7.
159	Review your learning by going over “Surface Area, Volume, and Capacity”.
160-163	Do # 2, 3, 5, 7, 9, and 10.

Since this course is based on the mastery system, you need to reach 80% in the test before you can proceed to the next chapter, so review your problems and when you are ready, ask your instructor for the test.