

What Should a Student Know to Become an Apprentice?



- Dave Namanye-Jack Martin & Associates Educational Services
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What is an apprenticeship?



Registered Apprenticeships by the Numbers

- Approximately 500,000 apprentices nationwide
- Apprenticeships offered in more than 1,000 occupations
- More than 250,000 employers involved in the program

4/22/2010 Office of Apprenticeship



The registered apprenticeship is “ A national training system that combines paid learning, on-the-job and related technical and theoretical instruction in a skilled occupation. ”



- 50% to 75% of apprentices earn **\$160,000** during their four to five years of apprenticeship



- Starting Journeyperson earn \$45,000 to \$65,000 and with overtime can earn up to **\$100,000**

“The Other Four Year Degree”

- Classroom / College credit: 576 –700 hrs
- On-the–job / hands on: 8,000 hrs
- Usually taught by a skilled trades person at their own facility or,
- At Community College
- Credit transfer-2 plus 2 degree



***What types of
apprenticeships are
available?***

Manufacturing Apprenticeships

- Auto/Truck Repair
- Die Designer
- Die Maker
- Draftsman
- Electrician
- Machinist
- Machine Repair
- Millwright
- Model Maker
- Mold Maker
- Pattern Maker
- Pipe fitter
- Stationary Engineer
- Sheet Metal Worker
- Tin Smith
- Tool Designer
- Tool Maker
- Welder

Construction Apprenticeships

- Asbestos Worker
- Boilermaker
- Bricklayer
- Carpenter
- Carpet/Latherer/Floor Layer
- Cement Mason
- Construction Craft Laborer
- Drywall Finisher
- Electrician
- Elevator Constructor
- Glaziers/Glass Worker
- General Laborer
- Iron Worker/Structural Steel
- Millwright
- Operating Engineer
- Plasterer
- Painter/Drywall Finisher
- Plumber/Pipe fitter
- Refrigeration & AC
- Roofer/Waterproofer
- Sheet Metal Worker
- Sprinkler Fitter
- Tile, Marble & Terrazzo Mason

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New Apprenticeships

- Energy
- Health Care
- Information Technology
- Social Services
- Environmental
- Transportation
- Aerospace
- Biotechnology
- Finance
- Geospatial
- Green Jobs
- Military
- Food Service



Connecting Students to Careers

- *Provide clear information about apprenticeship requirements*
- *Give Youth more opportunities to learn about the trades*
- *Advise parents how to help their children find an employer sponsor*

Connecting Students to Careers

- *Encourage teachers to talk positively about careers in the skilled trades*
- *Outline information on course selection requirements that prepare youth for skilled trades careers*

*Most apprenticeships
require a personal interview
and passing a test to enter
an apprenticeship*



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***What are the “core skills”
needed by an apprentice?***

The core skills all apprentices should have include:

- ***Math***
- ***Mechanical Reasoning***
- ***Graphic Math-blueprint reading***
- ***Spatial Relations***
- ***Technical Reading***

Specific math content

Can you think of a skilled trade that does not require any math?

- All trades require basic math skills
- Some trades require advanced math
- All trades require measurement skills

Required Basic Math Skills

- Addition
- Subtraction
- Multiplication
- Division
- Fractions
- Decimals
- Story Problems

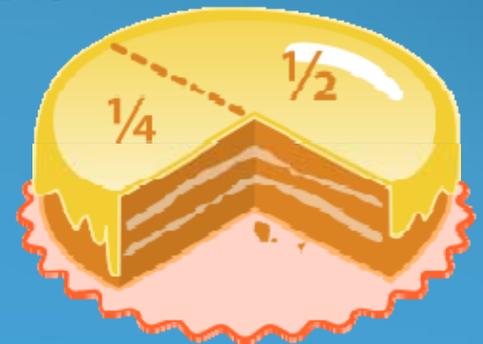


Which of these basic math skills is most important to apprenticeships?

Fractions Are Key To Math Success, New Study Shows

What part of math success comes from knowing fractions? More than you might think, according to a new study that analyzed long-term data on more than 4,000 children...These findings demonstrate an immediate need to improve the teaching and learning of fractions and division,” said University of Michigan researcher Pamela Davis-Kean, a co-author of the study and director of the Center for the Analysis of Pathways from Childhood to Adulthood at the U-M Institute for Social Research.

<http://detroit.cbslocal.com/2012/06/17/fractions-are-key-to-math-success-new-study-shows/>



Fractions

Arrange the following socket wrenches in order from largest to smallest:

$1/2$, $3/16$, $5/8$, $1/4$

Reduce to lowest terms: $\frac{34}{38} = ?$

a) $34/38$

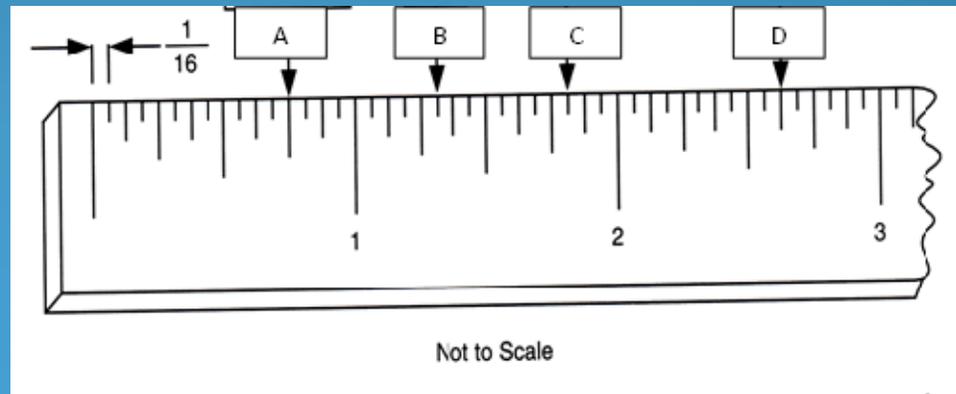
b) $17/19$

c) $5/3$

d) none of the above

Measurement Skills

- Read a ruler in both English and Metric units
- Convert from fractions to decimal measurements and visa versa
- Round off measurements accurately



Percents, Decimals & Conversions

If the daily production of a stamping plant is 136,000 parts and the average amount of scrap is 4080 pieces, what percent of the daily production are bad parts?

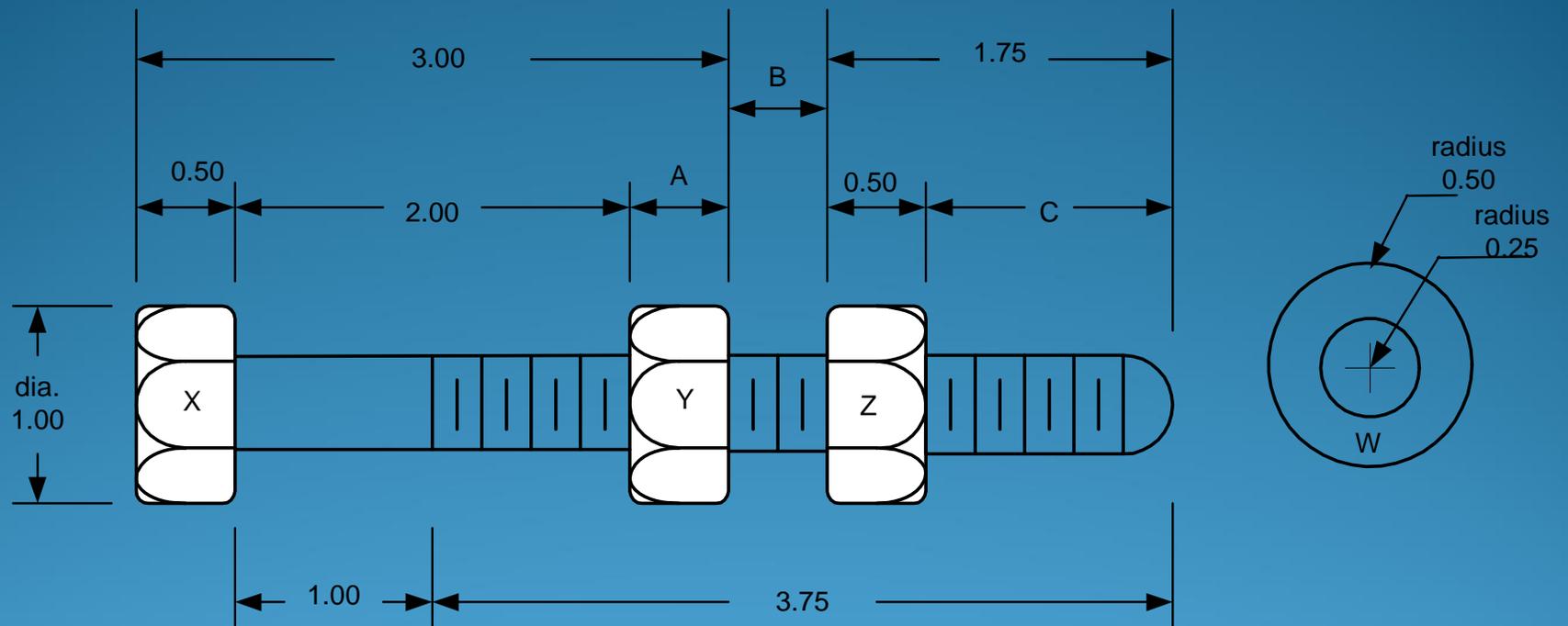
- a) 1% bad parts
- b) 2% bad parts
- c) 3% bad parts
- d) 4% bad parts

Story Problems

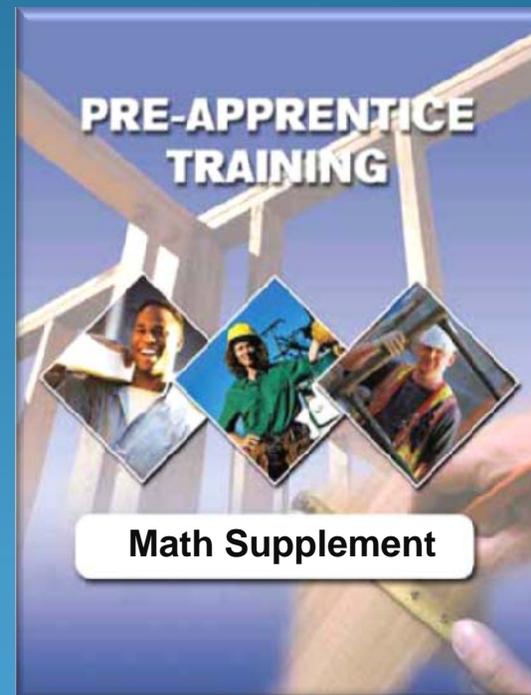
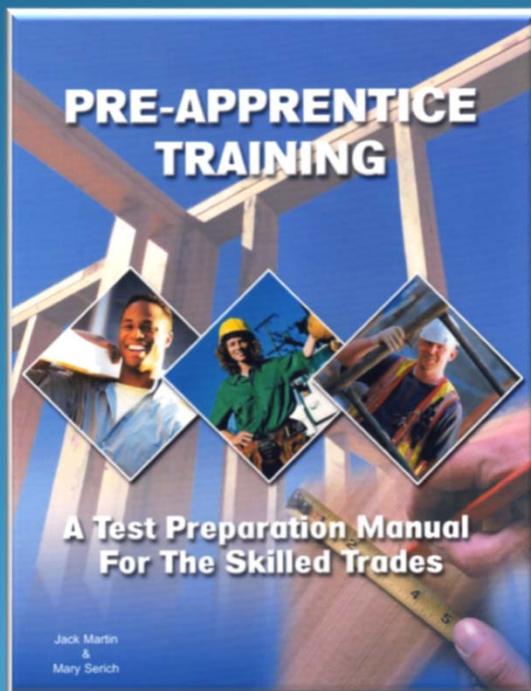
A tabletop is 60 centimeters long by 88 centimeters wide. It is being covered with ceramic tiles that are 2-centimeter squares. How many tiles are needed?

Number of tiles = _____

Graphic Math



Preparing for An Apprenticeship Test



Does this Book Really Help?



- “After being out of high school for so many years, your book gave me the edge I needed to pass the GM apprenticeship test.”
- Norman Jones, Tool and Die & Electrical Journeyperson

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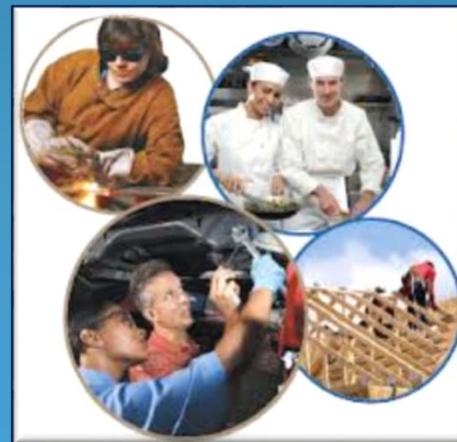
Or visit our website for more information:

www.Pre-Apprenticetraining.com

What is the advantage of being an apprentice?



“Apprenticeship is a system of training that combines on the job and classroom learning in order to acquire journey person status.”



*So why should students
consider being an
apprentice?*



Traditional 4 year college vs. 5 year Apprenticeship Degree

Years	Wages you make per year in college and 1st year on job	Wages you make per year in average union building trade learning on the job
1	\$0.00	\$ 31,794.00
2	\$0.00	\$ 37,908.00
3	\$0.00	\$ 44,022.00
4	\$0.00	\$ 48,619.00
5	\$40,000.00	\$ 54,724.00
Totals	\$40,000.00 ?	\$ 217,067.00

Based on Apprentice/Journey hours of 1944 per year and wages as of 1/1/2006 (Does not include fringe benefits)

•Your results may vary, no guarantee is implied or expressed

•Data taken from: http://www.sheetmetal-16.org/Cost/cost_comparison.htm

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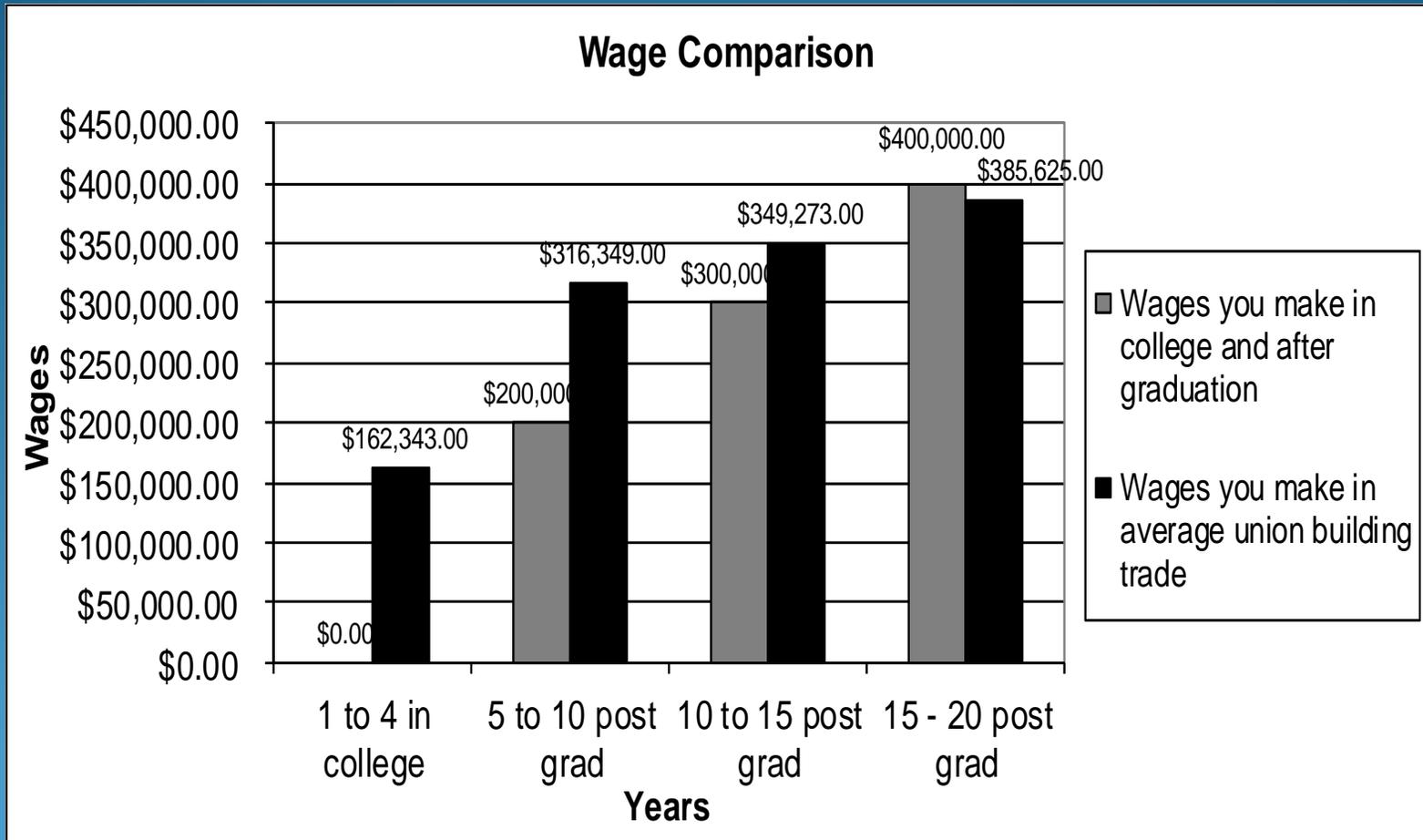
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Earn While You Learn



Unlimited Future

- Above average pay
- Job mobility
- Career satisfaction
- Possible self employment
- Possible to own your own company
- Good job security-construction jobs can't be sent off-shore



***How do you become an
apprentice?***

How do I find out about openings and testing?

- *Openings are advertised*
- *Union Websites*
- *Company communications*

*Many trades conduct the test only
once per year*

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• ***DOL- Office of Apprenticeship***

- Register programs
- Develop new programs
- Assure quality training
- Protect safety and welfare
- Issue certificates of completion

- **Registered Program**
Certification

- Journeyperson card
- Recognized nationwide as portable industry credentials



Role of Parents in choosing apprenticeships