



Math122 College Algebra

Professor Douglas J. Ryan

P.1

Modeling the Real World with Algebra

- Many times in algebra, we use letters to stand for numbers
- As a workstudy student, your pay can be calculated by $P=HW$ where
 - P stands for pay
 - H is hours worked
 - W is hourly wage

Problem

- The model $P=HW$ allows us to find the pay for any worker.
 - If Sara works 35 hours at \$10 per hour, how much did Sara earn?
- Further, we can use the model to solve other problems.
 - If Jeff earned \$200 and worked 40 hours, what was his hourly wage?

Problem

- A company determined that the cost C (in dollars) of making x DVDs is modeled by the formula $C = 1,000 + 0.5x$
 - a) What is the cost of making 100 DVDs?
 - b) How many DVDs can be made if the company spends \$5,000 making DVDs?

Problem

- Who owns a credit card?
- How do credit cards work?
- Can you come up with a model for interest paid on a credit card?

- At the end of January, 2012 Jill has \$10,000 of credit card debit at an annual interest rate of 18%. How much interest does Jill owe the credit card company at the end of January?