



## Math 1500 Math for a Modern Society- A Liberal Arts Course

### Catalog Description:

A liberal arts mathematics course designed for students whose majors do not require calculus, this applications-orientated course involves the study of several topics from modern society. At least six independent parts will be included: thinking critically, approaches to problem solving, numbers in the real world, financial management, statistical reasoning, and exponential modeling. \*UC credit not granted for Math 1500 if taken after Math 2120. Transfer Credit: CSU; UC.

### SLO:

Course #1 - Apply the installment loan formula to calculate monthly payments for a car loan.

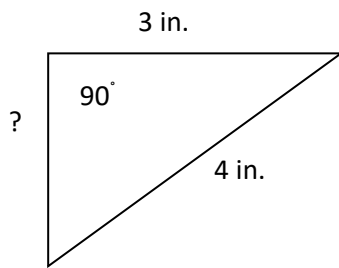
Course #2 - Distinguish between linear growth and decay and exponential growth and decay.

### Sample Problems:

1. Refer to the set  $\left\{-2, \frac{1}{3}, 0, \sqrt{5}, 2.9, -3.2, -\sqrt{3}\right\}$ .
  - a. List all the whole numbers in this set.
  - b. List all the integers in this set.
  - c. List all the real numbers in this set.
  - d. List all the rational numbers in this set
  
2. Convert the following measurements.
  - a.  $2\frac{1}{2}$  T \_\_\_\_\_ lb
  - b. 3 gal=\_\_\_\_\_ pt
  - c. 4 yd=\_\_\_\_\_ in.
  - d. 18 ft=\_\_\_\_\_ yd
  - e. 270 sec=\_\_\_\_\_ min

f. 10 qt = \_\_\_\_\_ pt

- A car can go 175 miles on 7 gallons of gas. How far could it go on 15 gallons?
- How many crates do you need to hold 2200 apples if each crate holds 40 apples?
- Convert a time of 3600 seconds into minutes.
- What percent of \$540 is \$216?
- What is the simple interest on a two-year loan of \$2400 at  $3\frac{1}{2}\%$ ?
- Marla borrowed \$5200 to buy a car. The loan is for 18 months at 8% simple interest. Find the total amount due on the loan?
- Use the Pythagorean formula to find the exact length of the missing side in the figure.



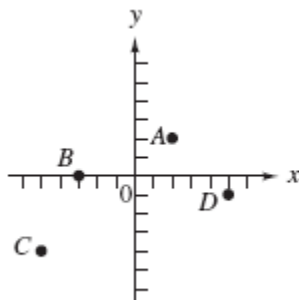
- Give the coordinates of each lettered point shown below, and state which quadrant the point is in.

Point A

Point B

Point C

Point D



Answers:

1. a) {0}      b) {-2,0}      c)  $\left\{-2, \frac{1}{3}, 0, \sqrt{5}, 2.9, -3.2, -\sqrt{3}\right\}$       d) {-2,1/3,0,2.9,-3.2}
2. a) 5000lb      b) 24 pt      c) 144 in.      d) 6yd      e) 4.5min      f) 20pt
3. 375 mi
4. 55 crates
5. 60 min
6. 40%
7. \$168
8. \$5824
9. approx. 2.65 or  $\sqrt{7}$
10. Point A (2,2) QI;      Point B (-3,0) No Quad;      Point C (-5,-4) QIII;      Point D (5,-1) QIV