

Math For Liberal Arts  
Review for Test 3  
Luczak

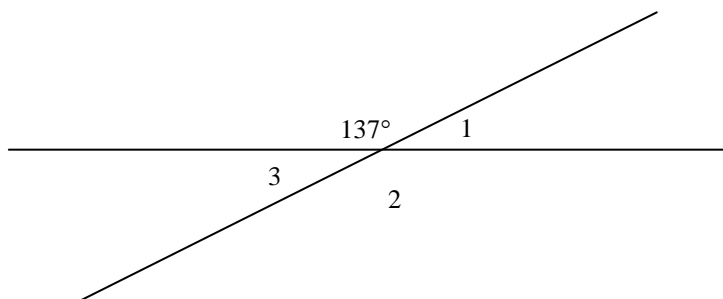
List of formulas for interest:

Simple Interest:  $I = Prt$

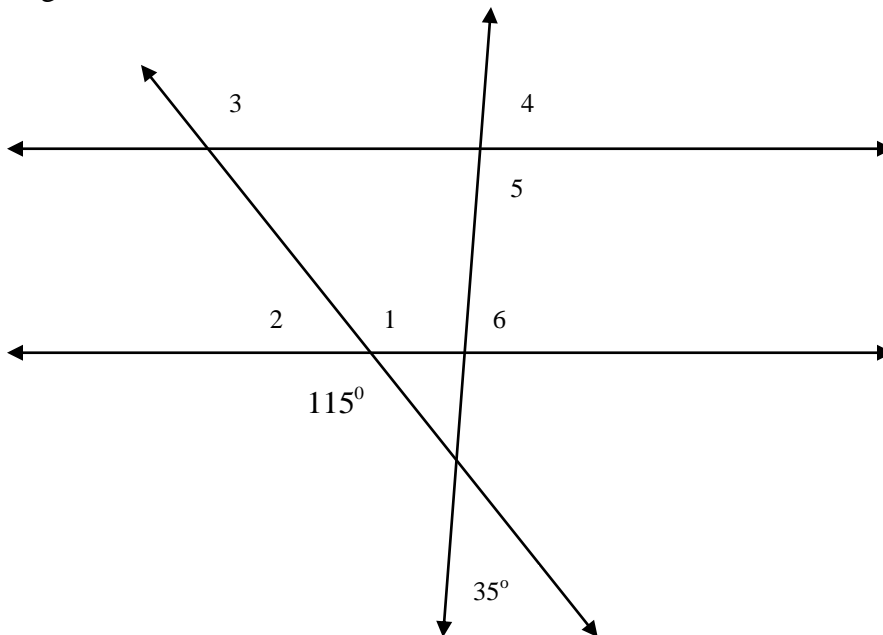
Future Amount using Simple Interest:  $A = P(1 + rt)$

Future Amount using Compound Interest  $A = P\left(1 + \frac{r}{n}\right)^{nt}$

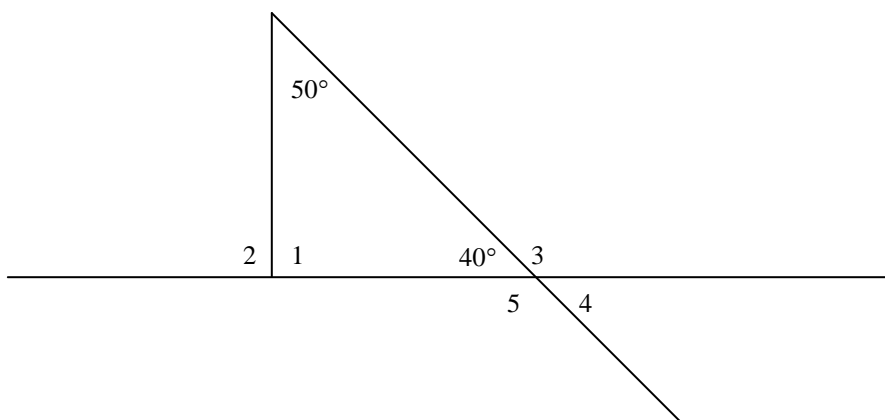
1. Suppose that you buy a backpack for \$ 24 in a state where the sales tax is 7%, how much is the total cost of the backpack?
2. A TV with an original price of \$ 850 is on sale for 35% off, what is the sale price of the TV? If the sales tax is 7% what is the total you would pay if you purchased the TV during the sale?
3. If you made an investment of \$1500 and it lost 10% the first year but MADE 10% the second year how much would it be worth?
4. A student borrows \$ 3500 for four months at 10.5% interest to pay for expenses. How much interest does the student have to pay? What is the future value of the loan?
5. Suppose you have \$ 14,000 to invest. Which investment yields the greater return over 10 years: 7% compounded monthly or 6.85% compounded daily ( $n=360$ )? How much more is yielded by the better investment?
6. How much money should be deposited today into an account that earns 5% compounded quarterly so that it will accumulate to \$ 75,000 in 35 years for retirement?
7. Find the angle measure for each of the numbered angles.



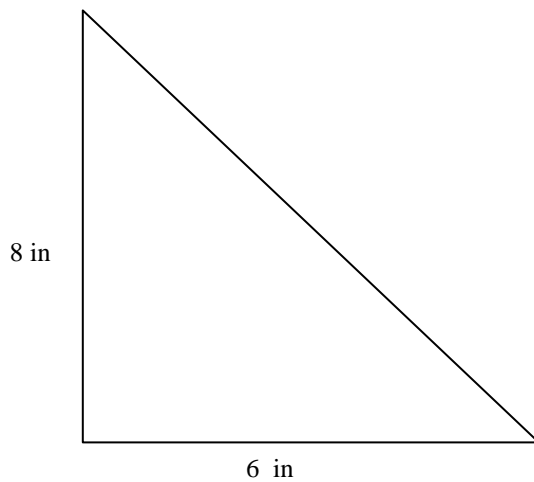
8. In the following figure lines  $l$  and  $m$  are parallel. Find the measure of each numbered angle:



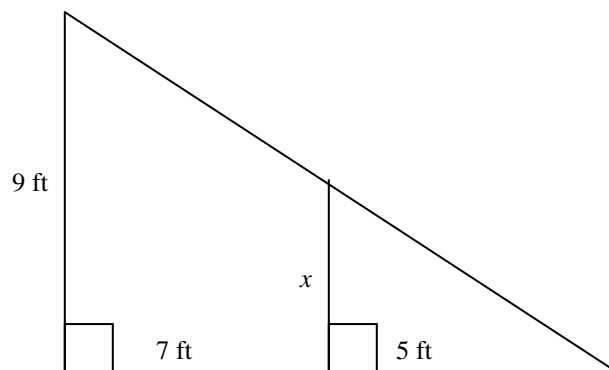
9. Find the measures of each of the numbered angles



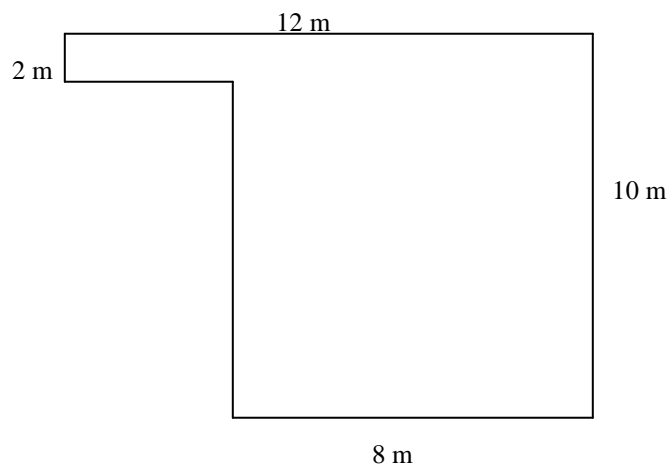
10. Find the length of the missing side,(this is a right triangle):



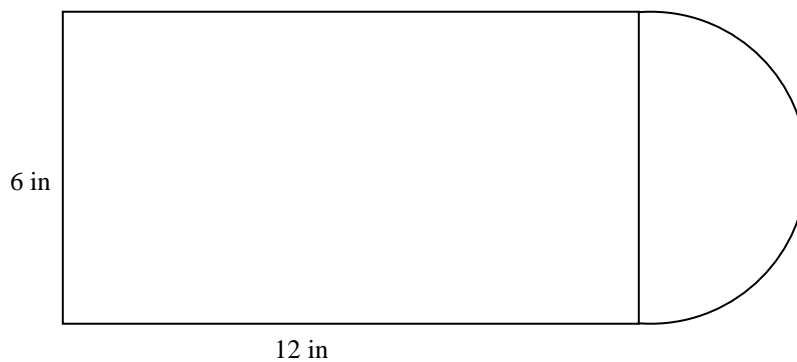
11. The following triangles are similar, use this fact to find the length of side  $x$ .



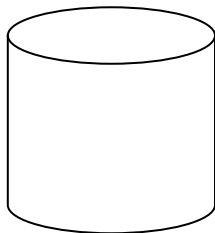
12. Find the perimeter and area for the following picture (assume all angles are right angles)



13. Find the perimeter and area of the following figure, leave your answer in terms of  $\pi$ .



14. Find the volume of the following cylinder where the diameter and height are both 8 yards, leave your answer in terms of  $\pi$  . :



15. The base of a 3 dimensional object is the following figure. The height is 5 inches. Find the volume of the object.

