

ALGEBRA I Wkst #5
PROBLEM SOLVING Formulas

NAME _____
DATE _____ PERIOD _____

Use the appropriate formula to solve each problem. Show all work on your own paper.

1. A rectangular picture frame has a perimeter of 3 ft. The width of the frame is 3 times its height. Find the height of the frame. $P = 2L + 2W$
2. Newton's second law of motion states that force, F , is equal to the mass, m , times acceleration, a , or $F = ma$. A force of 20 newtons is acting on a mass of 10 kilograms. A newton is one kilogram-meter per second. What is the acceleration.
3. You deposit \$400 in a savings account. After one year, your balance is \$428. What was your annual interest rate? $A = P + Prt$
4. A rectangle is 1.5 times as long as it is wide. The perimeter of the rectangle is 75 inches. Find the width of the rectangle.
5. The upward velocity of the water in a water fountain is given by the formula $v = -32t + 28$, where t is the number of seconds after the water leaves the fountain. While going upward, the water slows down until, at the top of the stream, the water has a velocity of zero. How long does it take each particle of water to reach the maximum height?
6. A farmer wishes to plant cotton in a 150 ft by 300 ft field. What is the total area of cotton he will be able to harvest?
7. The Smiths plan to build a deck around a pool. The dimensions of the pool are 20ft by 12 ft and the outside dimensions of the pool and deck will be 30 ft by 20 ft. Determine the total area of deck material that they will need to purchase.
8. A train travels 110 mph for 550 miles. How long will it take to reach its destination?
9. A bus is traveling 3 hrs at 60 mph. What distance has the bus traveled?
10. You traveled a distance of 600 miles in 15 hours. What was your rate of speed?