

**Word Problems (9<sup>th</sup> grade)**

Place all answers in the blank space provided. Calculators are permitted. Be sure to include units where applicable.

\_\_\_\_\_ 1. One side of a rectangle is 4 inches shorter than the other. If the perimeter of the rectangle is 20 inches, what is its area?

\_\_\_\_\_ 6. One side of a rectangle is 5 inches longer than the other. If the area of the rectangle is  $204 \text{ in}^2$ , how long is the perimeter?

\_\_\_\_\_ 2. Cell phone plan A costs \$20, has 120 “free” minutes and each additional minute is 15¢. Plan B costs \$40, has 180 “free” minutes and each additional minute is 10¢. After how many minutes will plan A become more expensive?

\_\_\_\_\_ 7. If the average of seven numbers is 13, and the average of four of these is 17.5, then what is the average of the other three numbers?

\_\_\_\_\_ 3. It takes Action Hero Jack 7.5 minutes to paddle his kayak downstream 4 miles, but 12 minutes to get back. What is the average mph speed of the current?

\_\_\_\_\_ 8. A snail climbs a vertical post 20 feet high. It climbs 5 ft during the day and slides down 3 feet during the night. It started at the bottom on Monday morning. On what day will it reach the top?

\_\_\_\_\_ 4. How much money must be invested into an account with 6% interest compounded monthly, to achieve \$4380.60 in 13 years? Approximate to the nearest dollar.

\_\_\_\_\_ 9. Phineas and Ferb can build an ice cream machine in 6 minutes. Phineas (alone) can build the same machine in 18 minutes. How long will it take Ferb alone to build this machine?

\_\_\_\_\_ 5. A freight train 0.6 miles long travelling at the speed of 24 mph is entering a tunnel which is 0.2 miles long. How long will it take for the train to clear the tunnel?

\_\_\_\_\_ 10. The sum of the two digits of a number is 10. When the digits are reversed, the new number is 15 more than 4 times the original number. What is the original number?