Homework Solutions (with Chuck Norris)

1. While you were reading this sentence, Chuck Norris’ judo chop ability increased 73.8%, and he can now perform 63 judo chops per second. How many could he perform per second before the increase? (Round your answer to the nearest judo chop)

   Solve for: $P = \text{initial judo chops per second}$
   Use: $A = P(1+r)$
   $63 = P(1 + .738)$
   $P = 36.249$ or about 36 chops per second

2. The President has determined that the 78,000 Taliban fighters in the mountains of Afghanistan are fools that must be pitied ASAP. The President logically calls upon Chuck Norris and Mr. T. Now, if Chuck Norris can pity all 78,000 fools in 5 days, and if Mr. T (the recognized world leader in fool-pitying) can pity the same number of fools in 2 days, how long would it take Chuck and T to pity the Taliban if they worked together? (Chuck wants his time in days, hours, minutes, and seconds)

   Solve for: $t = \text{time to pity all fools together}$
   Use: $r*t = d$

   Find Chuck’s rate \( (C_{rate} \times 5 = 78000\), so $C_{rate} = 15,600$).
   Find Mr. T’s rate \( (T_{rate} \times 2 = 78000\), so $T_{rate} = 39,000$)
   Find rate together \( (R = 15,600 + 39,000 = 54,600)$
   Solve for Time \( (54,600 \times t = 78000\), $t = 1.42857143$)
   Convert to Days/Hours/Min/Sec \( .42857143 \text{days} \times \frac{24 \text{hrs}}{1 \text{day}} = 10.2857143 \text{hrs} \)
   … 1 day 10 hours 17 min 9 sec

3. Suppose you have $20000 that you would like to invest. The T. Rowe Price New Horizons Fund, the best small-cap mutual fund of 2008, has a return of 4%. On the other hand, money left under Chuck Norris’ pillow has a return of 16%. How should you split your investment so that you earn exactly $2168 in interest?

   Solve for: $x = \text{amount in T.Rowe Fund, } y = \text{amount under Chuck’s pillow}$

   \[
   x + y = 20000 \quad \text{or} \quad x = 20000 - y
   \]
   \[
   .04x + .16y = 2168
   \]
   \[
   .04(20000 - y) + .16y = 2168
   \]
   \[
   800 + .12y = 2168
   \]
   \[
   .12y = 1368
   \]
   \[
   y = 11,400 \text{ and } x = 8,600
   \]
   So 11,400 was under the pillow and 8,600 was in the fund
4. Chuck Norris’ “blood” is really a combination of 15% human blood, 38% gasoline, and 47% hate. If the total volume of blood in Chuck’s body is 4.7 liters, and if gasoline sells for $3.55/gallon, estimate the value of the gasoline in Chuck’s blood.

Solve for: $x = \text{value of gas}$

\[
x = 3.55 (\text{gallons gas in blood}) \\
0.38 \times 4.7 \text{ liters} = 1.786 \text{ liters gas} \\
1.786 \text{ liters} \times \frac{1 \text{ gallon}}{3.78541 \text{ liters}} = 0.47181 \text{ gallons} \\
x = 3.55 \times 0.47181 = 1.67
\]

5. The Pronghorn Antelope, one of the fastest land animals on Earth, can reach a top speed of 61 mph. Chuck Norris, the fastest land animal on Earth, can run at 84 mph. Starting at the same point, if Chuck gives the antelope a one hour head start, how long until he seizes and consumes the antelope raw? (in days, hours, minutes, seconds format)

Solve for: $C_{time} = \text{Chuck’s run time}$

\[
C_{rate} \times C_{time} = A_{rate}A_{time} \\
84 \times C_{time} = 61 \times (C_{time} + 1) \\
84 \times C_{time} = 61C_{time} + 61 \\
23 \times C_{time} = 61 \\
C_{time} = 2.65217 \text{ hours}
\]

Or 2 hours 39 min 8 sec