

**1) Translate English to math:**

- a. the sum of a number and eleven is thirty-eight
- b. A number decreased by thirty is the same as fourteen minus three times the number.

**2) Use formulas:**

$$S = \frac{w-10e}{m}$$

This is the formula for a person's typing speed.  $S$  is speed in words per minute,  $w$  is number of words typed,  $e$  is errors and  $m$  is number of minutes typing.

$$t = -0.0035a + g$$

For altitudes up to 36,000 ft. the relationship between temperature and altitude can be described with the formula above where  $t$  is temperature at elevation (in  $F^{\circ}$ )  $a$  is the change in altitude and  $g$  is ground temperature.

- a. If Raine's typing speed is 43 words per minute after typing 589 words in 13 minutes, how many errors did Raine make?
- b. It's a  $67^{\circ}$  day in the valley (elev. 6,000 ft). Andy is on top of the Grand Teton, 13,770 ft. up. What is the temperature for Andy?

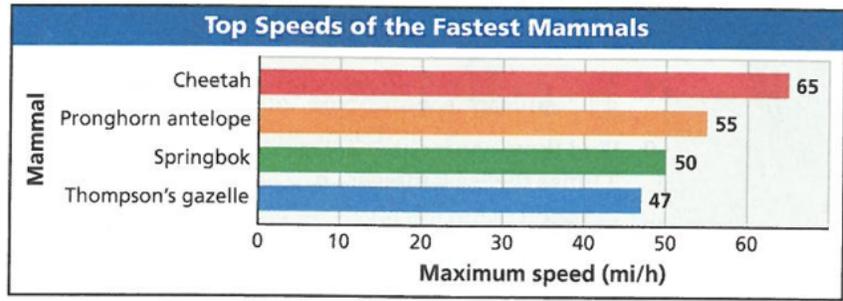
**3) Percent Problems:**

- a. 30 is what percent of 82?
- b. Four people go out to lunch and receive a check for \$42.50. The group is unhappy with the service at the restaurant, so they only leave a 5% tip. How much was spent at the lunch?
- c. The number of students at BHS who own a motorcycle is 60. That number is expected to decrease by 15% next school year. How many students will own a motorcycle next school year?

**4) General: Write an equation, then solve it**

- a. Daisy paid \$75.00 to become a member of The Ridge Athletic Club. Then she had to pay a monthly membership fee. Her total cost for 9 months was \$524.55. How much is the monthly fee?
- b. Joey makes \$55,000 and is getting annual raises of \$2,500 each year. Chandler makes \$62,000, with annual raises of \$2,000.
1. How many years will it take for Joey & Chandler to make the same salary?
  2. How much money will the two friends be making in that year

c. Use the chart to answer the questions below.



1. If the gazelle runs at top speed for 2 hours, how far has it traveled?
2. Write an expression for how far the gazelle travels if it runs for  $x$  hours.
3. Write an expression for how far the cheetah runs at top speed for  $x$  hours.
4. A cheetah and a gazelle are running at top speed. The cheetah is *1 mile behind* the gazelle. Write an equation for how long it will take the cheetah to catch the gazelle and solve it.
5. A cheetah can maintain top speed for 300 yards. Will he be able to catch the gazelle?

## 5) Conversions

- a. 1 mile is 5,280 feet and 2.54 centimeters is equivalent to 1 inch. Use a series of conversions to calculate the number of centimeters in 1.25 miles.
- b. The tropical giant bamboo can grow 11.9 feet in 3 days. What is this rate of growth in inches per hour?

## 6) Proportions

- a. A 16 ft. tall tree casts a 4.5 ft. shadow. At the same time of day, how long will a 5.75 ft girl's shadow be?
- b. In a recipe  $\frac{1}{4}$  cup of cocoa is needed for 6 people. How much cocoa will be needed for 75 people?