MINNESOTA ZOO®

NAME_____

Directions: Answer the following questions using the information provided. Show your work. If additional space is needed, please attach a separate piece of paper and correctly identify the problem it correlates to. If you are creating a table or graph, be sure to include titles and labels.

1)   The American bison, despite its 2000 lbs size, can travel at speeds up to 35 mph.

a. At this rate, how far could it go in 45 minutes?

_____35 mph x 45min/60 min = **26.25 MILES_____**
b. 2 1/2 hours?

__35 mph x 150 min / 60 min = **87.5 MILES__**
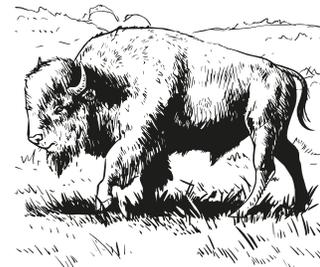c. How long would it take for the bison to travel 30 miles at top speed?

30 / 35 = **0.86 OF THE HOUR**
0.86 x 60 = **51.6 MINUTES**
d. How long would it take a bison to travel from Luverne, MN to Rapid City, SD? (*Start by using an atlas or class map and estimate the distance between these cities.*)

Distance = **370.2 MILES**
370.2 miles / 35 mph = **10.58 HOUR**

2)   The sloth is the slowest mammal, traveling on the ground only 5.2 feet per hour, or one mile in 42 days! However, it is much faster in trees, clocking 1.25 mph.

a. How far could it travel in twelve hours at its ground speed? Express your answer in feet.

___5.2 feet / hour x 12 hours = **62.5 FEET_____**
b. Give the answer in part (a) in miles, to the nearest hundredth.

___1.25 mph x 12 hours = **15 MILES_____**
c. If it traveled through trees, how far could it travel in twelve hours? Express your answer in miles.

_____62.5 feet / 5280 feet/mile = **0.01 MILES_____**

NAME_____

3) The pronghorn antelope is the fastest animal in North America and at the Minnesota Zoo. In bursts, it can go 60 mph.

a. At this rate how far would the pronghorn travel in 2 minutes?

2 minutes = **2/60 OF AN HOUR OR 0.033**

60 mph x 0.033 = **1.99 MILES**

b. The fastest land animal in the world is the cheetah, which can run up to 70 mph in short spurts. Starting at the same time, approximately how long would the cheetah have to wait for the pronghorn if they ran 30 miles?

30 miles / 70 mph = **.43 HOUR OR 25.8 MINUTES FOR CHEETAH**

30 miles/ 60 mph = **0.5 HOUR OR 30 MINUTES FOR PRONGHORN**

30 min. -25.8 min =**4.2 MINUTES OF WAITING**

4) A sea star moves about 6 inches a minute. Complete the following table.

__6__ inches a minute

_**360**___ inches an hour

__**30**__ feet an hour

_**0.0056**___ miles per hour (1 mile = 5280 feet) (express as a decimal)

5) Is it true some animals have uniforms? Some fish species of wrasse have black or electric blue stripes that are signs of their profession. Their job is to remove annoying parasites that irritate the skin, mouth and gills of larger fishes. The payoff is lunch! One cleaner wrasse treated 300 fish in 6 hours! In comparison, a dental hygienist might clean the teeth of twelve human patients in one hour.

a. How many more clients than the hygienist can the wrasse serve in an hour?

300/6 = **50 AN HOUR**

50 – 12 = **38 MORE THAN THE HYGIENIST**

b. How many hygienists would be needed to serve 300 clients in 6 hours?

12 x 6 = **72 CLIENTS/HOUR PER HYGIENIST**

300 / 72 = **4.16 HYGIENISTS ARE NEEDED**