

## Problem of the Week

### Problem B

### Speedy or Not, You May Be Caught!

Various animals can travel at the following top speeds for short distances:

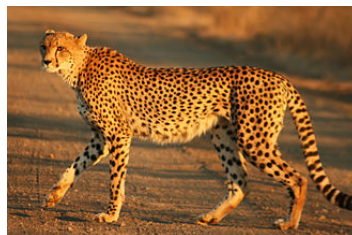
- cheetahs race along at 120 km/h (that is, they travel 120 km every hour);
- cows can gallop at 12.8 km/h;
- snails can slither along at 0.013 m/s;

A human's top speed is 10.4 m/s.

- a) How many seconds would it take each animal to run a 100 m race? How long would it take a human to complete the 100 m?
- b) While hunting, cheetahs can only maintain their amazing speed for about 15 s, after which they generally give up the chase. Gazelles can run 60 km/h when evading predators. Suppose a cheetah spots a gazelle 300 m away. If both animals start at the same time and run in a straight line, will the gazelle escape?

#### For further consideration:

If the top speeds of the animals could be maintained over a long distance (physically impossible), approximately how long would it take the animals to run a 42.2 km marathon? How long would it take a human to complete the marathon?



All photos source: Wikipedia

**STRANDS**    NUMBER SENSE AND NUMERATION,    MEASUREMENT

