Problem 3: Converting Units Between Systems

The CN Tower in Toronto, Canada, is about 1,815 ft tall. About how many meters tall is the tower? Use the fact that $1m \sim 3.28\ ft$.

The CN Tower is about 553 m tall.

Got it?

A. A building is 1,450 ft tall. How many meters tall is the building?

The building is about 442 m tall.

B. Monetary exchange rates change from day to day. On a particular day, the exchange rate for dollars to euros was about 1 dollar=0.63 euro. About how many euros could you get for $325 on that day?

About 205 euros.

Problem 4: Converting Rates

A student ran the 50 yd dash in 5.8 s. At what speed did the student run in miles per hour? Round your answer to the nearest tenth.

Know: *The running speed in yards per second*

Need: *The running speed in miles per hour*

Plan: *Write the speed as a ratio. Choose conversion factors so that the original units (yards and seconds) divide out, leaving you with the units you need (miles and hours)*

The student ran at a speed of about 17.6 mi/hr.

Got it?

A. An athlete ran a sprint of 100 ft in 3.1s. At what speed was the athlete running in miles per hour? Round to the nearest mile per hour.

about 22 mi/hr

B. **Reasoning**. In problem 4, one student multiplies by these three conversion factors to find the speed: $\frac{1\ mi}{1760\ yd}$, $\frac{60s}{1\ min}$, and $\frac{60\ min}{1\ h}$. Can this method work? Why or why not. Answer in a complete sentence.

Yes - $\frac{60\,s}{1\,min} \cdot \frac{60\,min}{1\,hr} = \frac{3600\,s}{1\,hr.}$