HW #2

The objectives of risk assessment are to
minimize the disastrous outcomes that deemed
unacceptable. This is done by analyzing the probability
of failure & ensuring events that are likely are
rectified.

checking phone @ 65 mph for 4.6s:

$$d = \frac{65 \text{ miles}}{\text{hour}} \cdot \frac{1 \text{ hour}}{3600 s} \cdot \frac{5280 \text{ ft}}{1 \text{ mile}} \cdot 4.6s = 438.53 \text{ ft}$$

The percieved risk is low as we only check
the phone for a text, but the objective risk
is high as checking leaves the car unattended
for 438.53 ft.

HW#12

Risk of death / year:

Event	national Deaths/year	Risk [death/person·years]
Radon	21,000	$6.462e^{-5}$
Drunk Driving	17,400	$5.354e^{-5}$
Falls in home	8,000	$2.462e^{-5}$
Drowning	3,900	$1.2e^{-5}$
Home Fires	2,800	$8.615e^{-6}$

$$Risk = \frac{deaths/year}{total\ population}$$

Radon comes from the decay of uranium found naturally in the soil. Radon is denser than air, so it sinks in air & sits in low spots. Radon is especially dangerous in basements as the decay of uranium releases radon that seeps into the basements. This is why having radon alarms in your house is very important.