

THE SHADOW ZONE

Oh snap! Shadow creatures from a negative energy dimension are invading the Earth. I hate it when that happens! Fortunately, Monica is prepared for this sort of nonsense! She has seen enough scary movies to know that shadow creatures can only attack in the dark. She grabs her flashlight and springs into action! The flashlight has only $\frac{1}{4}$ of a charge. It runs through about $\frac{1}{8}$ of a charge per hour. How many hours of safety will the flashlight provide?

Monica holds the flashlight while her twin brother Oliver fires up the generator in the garage. If they can get it started, it will provide light for the whole house. They have $2\frac{1}{2}$ gallons of fuel. The generator uses about $\frac{1}{3}$ gallon of fuel per hour. How long can they keep the lights on?

The garage is pretty dark. Monica does her best, but some of the shadow creatures are able to sneak around her flashlight. Just as they are about to strike, Monica and Oliver's little brother Maxwell shows up with a laser pointer and sends them packing by lasering their tentacles! It turns out that laser pointers are good for something other than teasing cats! Maxwell is able to lop off about 3 tentacles every 2 minutes. How much damage is Maxwell able to do in the 8 minutes it takes to start the generator?

Uh oh. The generator is running out of fuel. It is still four hours until daybreak. Monica still has about an hour left on her flashlight. The kids also have three glow sticks that will last $\frac{1}{2}$ of an hour each, and 5 candles that will last $\frac{1}{3}$ of an hour each. Do they have enough light to make it through the night?

