

Energy and Power Practice

Physics and Mathematics of Sustainable Energy

College of the Atlantic. September 20, 2022

1. The fastest the fastest person can sprint is around 12 m/s. If this super fast person ran at this speed for two hours, how far would they travel?
2. A small electric coffee mug heater draws 12 Watts. If you leave this heater on for two hours, how much energy has it used?
3. You have 7.2 million dollars. You want to rent a rocket ship. The rental rate¹ is \$20/second. For how long can you rent the rocket?
4. A battery stores 7.2 MJ of energy. How long could this battery be used to light up a 20 W light bulb?
5. Mount Desert Island High School uses approximately 2,300,000 MJ of electricity in one year. What power is this?
6. An electric food dehydrator draws 750 Watts. If you leave the dehydrator running for two days, how much energy has it used?
7. An electric pump uses 200,000 J of energy in 3 minutes. What power is this?
8. A largeish electric heater draws 2000 W. If I leave this heater on for 4 hours, how much energy has it used?
9. An electric toaster draws 1000 Watts. If the toaster is left on for 1 hour, how much energy does it use?
10. An electric toaster draws 1200 W. If I make toast for half an hour, how much energy has the toaster used?

¹This isn't true. Actual rockets I think cost a lot more.