Topics: Power, Resistive Circuits

Intro discussion: Who would you rather fight: one grizzly bear or three wolves?

1. What is the equivalent resistance in the circuit to the right?

2. Two identical resistors when connected in series with an ideal battery, each dissipates 10 W. How much will each resistor dissipate if they are connected to the same battery in parallel?

3. The figure shows three identical lightbulbs connected to a battery having a constant voltage across its terminals. What happens to the brightness of lightbulb 1 when the switch S is closed?

4. Thirteen resistors are connected across points A and B as shown in the figure. If all the resistors are accurate to 2 significant figures, what is the equivalent resistance between points A and B?

5. Find the indicated equivalent resistance in the circuit shown below. In the circuit: $R1 = R3 = R5 = R7 = R9 = 1.5 \, \text{k}\Omega$, and $R2 = R4 = R6 = R8 = 2.2 \, \text{k}\Omega$