Power & Energy Questions

Question 1

A small electric heater works at 48 V and takes a current of 9 A.

What is the power output of the heater?

A. 5.3 W
B. 9 W
C. 48 W
D. 57 W
E. 430 W

Question 2

A 2.2 kW kettle works at a voltage of 230 V.

What current flows in the kettle?

A. 0.0096 A
B. 9.6 A
C. 10.5 A
D. 105 A

Question 3

A 120 W light bulb takes a current of 5 A.

What is the potential difference across the bulb?

A. 0.04 V
B. 24 V
C. 230 V
D. 600 V

Question 4

A current of 200 mA flows through a 100 Ω resistor.

What power does the resistor dissipate?

A. 50 W
B. 20 W
C. 4 W
D. 2 W

Question 5

A heating element in a toaster dissipates 690 W when a current of 3 A flows.

What is the resistance of the heating element?

A. 77 Ω
B. 130 Ω
C. 230 Ω
D. 2070 Ω

Question 6

What current flows through a 12 Ω filament in a 200 W light bulb?

A. 2400 A
B. 49 A
C. 17 A
D. 4.1 A

Question 7

A 12 V power supply is connected to a 220 Ω resistor.

What power is dissipated in the resistor?

A. 0.055 W
B. 0.65 W
C. 1.5 W
D. 18 W

Question 8

A mains operated flood light has a power output of 2000 W and works at 230 V.

What must be the resistance of the bulb filament?

A. 26 Ω
B. 8.7 Ω
C. 0.12 Ω
D. 0.038 Ω

Question 9

A 12 V bulb takes a current of 500 mA and is used for 20 s.

How much energy is transferred?

A. 830 J
B. 240 J
C. 120 J
D. 2 J

Question 10

An electric shower is rated at 230 V and takes 18 A.

How much energy is used taking a 15 minute shower?

A. 4.1 kJ
B. 62 kJ
C. 210 kJ
D. 3.7 MJ

Question 11

An electric shower is rated at 230 V and takes 18 A.

How much energy is used taking a 15 minute shower?

A. 1.0 kWh
B. 4.1 kWh
C. 1000 kWh
D. 4100 kWh

Question 12

What fuse should be used for a 600 W hairdryer operated from the 230V mains?

A. 3 A
B. 5 A
C. 13 A
D. 32 A

Answers

1. E
2. B
3. B
4. C
5. A
6. D
7. B
8. A
9. C
10. D
11. A
12. A

Website

http://www.pfnicholls.com/Electronics_Resources/QuestionIndex.html

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