

State of Iowa
DEPARTMENT OF EDUCATION
Career Education Division
Grimes State Office Building
Des Moines, IA 50319

CONTESTANT NUMBER _____

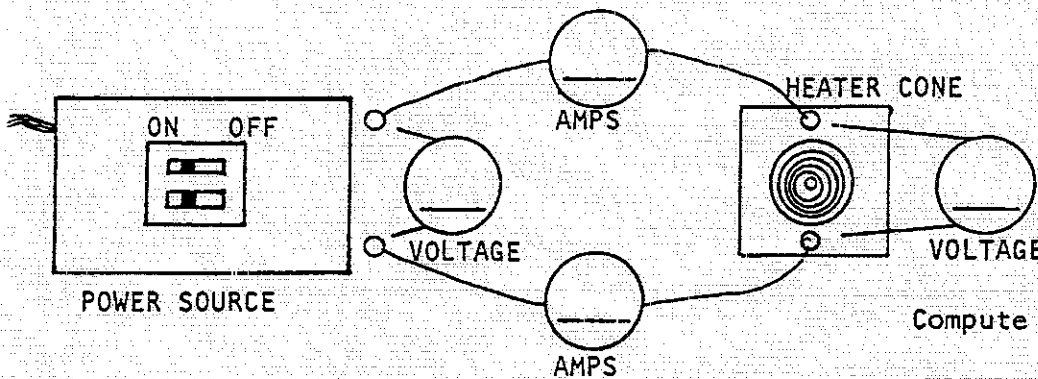
CONTESTANT NAME _____

CONTESTANT SCHOOL _____

SKILL

Electrical Circuits-Measuring Electricity

You will have 15 minutes to complete this exercise. Study the electrical circuit with a cone heater. Your job is to use the VOM meter and make electrical measurements as requested. **CAUTION:** you are working with a 110 volt live circuit-do not touch any connections-all connections have been made for you. Request assistance from one of the contest supervisors if you are not sure what you are doing. Study the below plan of the circuit, energize the circuit by tripping the circuit breaker and then make the electrical measurements requested and calculate circuit wattage.



STATION NUMBER _____

Compute Circuit Wattage

$$\frac{\quad}{\text{AMPS}} \times \frac{\quad}{\text{VOLTS}} = \frac{\quad}{\text{WATTAGE}}$$

If electricity costs 8¢/kilowatt hour what would be the cost of running this heater for 10 hours? \$ _____

When completed leave your work station in order and turn in your skill sheet to the judge for evaluation.

Evaluation Score Sheet

Items	Points	
	Possible	Earned
1. Circuit voltage measured	6	_____
2. Circuit amperage measured	6	_____
3. Computed wattage.	5	_____
4. Electrical costs	5	_____
5. Safe and proper use of VOM meter	3	_____
Total	25	_____

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SKILL
Small Engine

I. Specifications

- | | |
|--------------------------------------|--|
| 1. Engine model number _____ | 6. Engine displacement _____ mm ³ |
| 2. Engine serial number _____ | 7. Carburetor type _____ |
| 3. Bore _____ mm | 8. Governed idle speed _____ rpm |
| 4. Stroke _____ mm | 9. No load top speed _____ rpm |
| 5. Piston area _____ mm ² | 10. Air cleaner type _____ |
| | a) oil-foam |
| | b) dual element |
| | c) cartridge |

II. Parts Identification

- | | |
|----------|-----------|
| 1. _____ | 6. _____ |
| 2. _____ | 7. _____ |
| 3. _____ | 8. _____ |
| 4. _____ | 9. _____ |
| 5. _____ | 10. _____ |

III. Carburetor throttle shaft and bushings

1. Check throttle shaft and bushings for wear.
 - a. maximum allowable wear 0. _____ "
 - b. actual measurement 0. _____ "
2. Carburetor adjustment
 - a. turn idle and high speed needles in until: _____
 - b. open both needles _____ turns.

Evaluation Score Sheet

<u>Items</u>	<u>Points</u>	
	<u>Possible</u>	<u>Earned</u>
1. Specifications	5	_____
2. Parts identification	5	_____
3. Carburetor check and adjustment	12	_____
4. Safety	3	_____
Total	25	_____