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# Quiz Pages

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JELEP Quiz #1

JELEP Quiz #1 name \_\_\_\_\_

Enter your best answer for each of these ten questions.

\_\_\_\_\_ 1. What fractional drill bit is needed to tap for a 10/32 screw?

\_\_\_\_\_ 2. Some conductors are made \_\_\_\_\_ to increase flexibility.

\_\_\_\_\_ 3. The process of assuring an electrically conductive path is called \_\_\_\_\_.

\_\_\_\_\_ 4. A 700 Kcmil conductor is \_\_\_\_\_ circular mils.

\_\_\_\_\_ 5. The unit of resistance to current flow is the \_\_\_\_\_.

\_\_\_\_\_ 6. When a smaller conductor is attached to a larger conductor, it is a \_\_\_\_\_.

\_\_\_\_\_ 7. What is 3% of 120?

\_\_\_\_\_ 8. What is the decimal equivalent of  $4 \frac{11}{16}$ ?

\_\_\_\_\_ 9. What is the square of 16?

\_\_\_\_\_ 10. What is the volume of a 4 inch by 4 inch by  $2 \frac{1}{8}$  inch deep box?

### **JELEP Quiz #1 - Answers**

- 1. 5/32**
- 2. stranded**
- 3. bonding**
- 4. 700,000**
- 5. ohm**
- 6. tap**
- 7. 3.6**
- 8. 4.6875**
- 9. 256**
- 10. 34**

JELEP Quiz #2

JELEP Quiz #2 name \_\_\_\_\_

Enter your best answer for each of these ten questions.

- \_\_\_\_\_ 1. What is the table ampacity of a #10 TW copper conductor?
- \_\_\_\_\_ 2. What is the circular mil value for a #10 TW copper conductor?
- \_\_\_\_\_ 3. How many single pole switches are needed to control a bank of lights from seven different locations?
- \_\_\_\_\_ 4. How many three way switches are needed to control a bank of lights from seven locations?
- \_\_\_\_\_ 5. How many double pole switches are needed to control a bank of lights from seven locations?
- \_\_\_\_\_ 6. How many four way switches are needed to control a bank of lights from seven locations?
- \_\_\_\_\_ 7. A good conductor has many \_\_\_\_\_ electrons.
- \_\_\_\_\_ 8. True or False Electrons travel at the speed of light, 186,000 miles/second.
- \_\_\_\_\_ 9. How many 15 amp 120 volt general purpose lighting circuits are required by the NEC for a 3800 square foot residential dwelling unit?
- \_\_\_\_\_ 10. What is the smallest AWG size conductor that fits each of these requirements:
  - can be painted to identify a grounded conductor.
  - must have bushings on all fittings.
  - has a pull box containing it sized based on raceway dimension.

**JELEP Quiz #2 - Answers**

1. 30 amps
2. 10,380
3. none
4. two
5. none
6. five
7. free
8. false
9. 7
10. #4 AWG

**JELEP Quiz #3 - Switch Connections**

Refer to this diagram for all questions.

Given: Feed the first three way switch after the power source.

B-ungrounded conductor W-grounded conductor YY-travelers R-switch leg



1. What does the B conductor do in the first three way switch?
2. What does the W conductor do in the first three way switch?
3. What does the R conductor do in the first three way switch?
4. What do the YY conductors do in the first three way switch?
5. What does the W conductor do in the dead end three way switch?
6. What does the R conductor do in the dead end three way switch?
7. What does the R conductor do in each of the four way switches?
8. What does the W conductor do in each of the four way switches?
9. What color conductors are in the raceway from the first three way to the first four way switch?

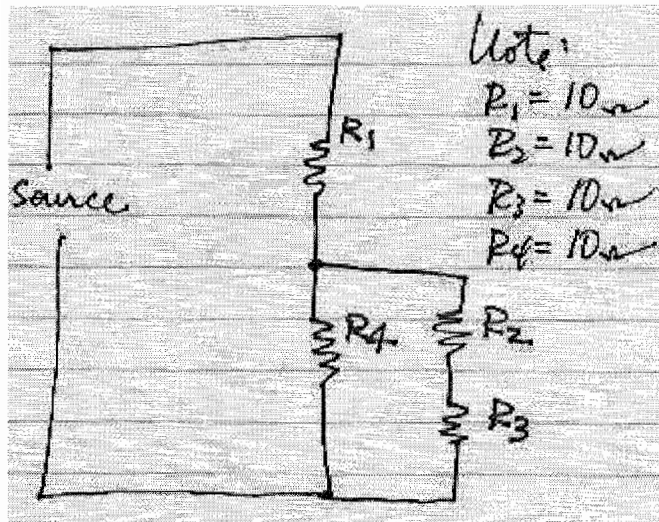
**JELEP Quiz #3 - Answers**

1. to common terminal
2. splice to W to life
3. splice and tuck
4. to traveler screws
5. not there
6. to common terminal
7. splice and tuck
8. none there
9. YJR
10. YJR

## JELEP Quiz #4

Answer all questions based on this diagram.

Assume all lamps used are the same wattage.



1. How does the current through #1 compare to the total current?
2. How does the voltage sum of #1, #2, and #3 compare to the total voltage?
3. How does the voltage sum of #1 and #4 compare to the total voltage?
4. How does the current of #2 compare to #3?
5. How does the current of #1 compare to the sum of currents #2 and #4?
6. How does the voltage sum of #2 and #3 compare to the voltage of #4?
7. How does the voltage of #2 compare to the voltage of #3?
8. How do resistances of #1, #2, #3, and #4 compare?
9. How does power of #2 compare to the power of #3?
10. How does the power total compare to the power sum of #1, #2, #3, and #4?



**JELEP Quiz 4**

1. the same - equal
2. the same - equal
3. the same - equal
4. the same - equal
5. the same - equal
6. the same - equal
7. the same - equal
8. the same - equal
9. the same - equal
10. the same - equal

## Quiz #5 - Maximum Unbalanced Load - Neutral Current

Use this panel load data for questions 1 to 4:

(60 amps of 2-wire 240 volt load) (70 amps of 120 volt load on A leg) (50 amps of 120 volt load on B leg)

1. What is the load on A leg if all are on?
2. What is the load on B leg if all are on?
3. What is the neutral load if all are on?
4. What is the maximum unbalanced load?

Use this panel load data for questions 5-8:

(140 amps of 2-wire 240 volt load) (60 amps of 120 volt load on A leg) (60 amps of 120 volt load on B leg)

5. What is the load on A leg if all are on?
  6. What is the load on B leg if all are on?
  7. What is the neutral load if all are on?
  8. What is the maximum unbalanced load?
- 
9. What is the maximum unbalanced load for a panel with 100 amps of 2-wire 240 volt load?
  10. What is the neutral load for a panel with 100 amp of 2-wire 240 volt load?

**JELEP Quiz #5 - Answers**

1. 130 amps
2. 110 amps
3. 20 amps
4. 70 amps
5. 200 amps
6. 200 amps
7. 0 amps
8. 60 amps
9. 0 amps
10. 0 amps

**JELEP Quiz #6 - Box Fill - Pull Box Dimensions**

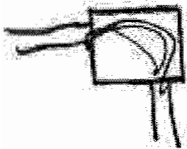
1. How many cubic inches are required by the NEC for a #14 AWG conductor? \_\_\_\_\_
2. How many cubic inches are required by the NEC for a #12 AWG conductor? \_\_\_\_\_
3. How many cubic inches are required by the NEC for a #10 AWG conductor? \_\_\_\_\_
4. How many cubic inches are required by the NEC for a #8 AWG conductor? \_\_\_\_\_
5. How many cubic inches are required by the NEC for a #6 AWG conductor? \_\_\_\_\_
6. What size conductor and larger requires junction and pull boxes to be sized \_\_\_\_\_ based on raceway dimensions and not cubic inches?

Note: All raceways for problems 7-10 are 2 inch. All conductors are #2 AWG.

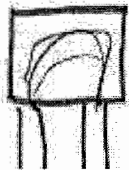
7. What is the minimum square dimension a pull box can be for this installation?



8. What is the minimum square dimension a pull box can be for this installation?  
Note: Each raceway is centered on the wall of the box where it enters.



9. What is the minimum square dimension a pull box can be for this installation?  
Note: Each raceway is 2 inches from the corner of the box.



10. What is the minimum depth a pull box can be for this installation?  
Note: The raceway from the bottom enters the box opposite a removable cover.

**JELEP Quiz #6 - Answers**

1. **2 cubic inches**
2. **2.25 cubic inches**
3. **2.5 cubic inches**
4. **3 cubic inches**
5. **5 cubic inches**
6. **#4 AWG**
7. **16 X 16**
8. **20 X 20**
9. **20 X 20**
10. **2 1/2 inches**

## MELEP Quiz #1 - Conductor Color Identification

Select the best NEC term to identify each of the below conductors:

ungrounded  
grounded  
grounding  
neutral  
code violation

1. white conductor in 6-3-G NM cable
2. #6 AWG green conductor with black tape at terminations
3. #12 gray conductor
4. 500 kcmil black conductor
5. #12 black conductor in 1/2" PVC with white and green conductors
6. #12 red conductor
7. #12 white conductor
8. #12 green conductor
9. #12 bare conductor
10. #12 green conductor with one yellow stripe
11. #6 black conductor with orange tape at terminations
12. #6 AWG conductor with white tape at terminations
13. 500 kcmil black conductor with white tape at terminations
14. 500 kcmil conductor with green tape at terminations
15. 500 kcmil black conductor with orange tape at terminations
16. #16 gold conductor with traces in cord with another gold conductor
17. #16 tinned conductor in cord with an un tinned conductor
18. #16 conductor with ridges on conductor in cable with other conductor without ridges
19. #6 green conductor with black tape at terminations
20. #12 White conductor connected to GFCI circuit breaker
21. Gray conductor in PVC with green conductor and with red and blue conductors
22. #6 black conductor with green tape
23. #6 white conductor
24. #6 white conductor in raceway with green, red, blue, and black conductors
25. #6 black conductor with three white stripes

**MELEP Quiz #1 - Answers**

1.	neutral	14.	grounding
2.	code violation	15.	ungrounded
3.	grounded	16.	grounded
4.	ungrounded	17.	grounded
5.	grounded	18.	grounded
6.	grounded	19.	code violation
7.	grounded	20.	grounded
8.	grounding	21.	neutral
9.	grounding	22.	code violation
10.	grounding	23.	grounded
11.	ungrounded	24.	neutral
12.	code violation	25.	grounded
13.	grounded		