

# Solutions for Electrical Wiring Commercial 9th Edition by Mullin

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# Solutions

## Unit 1 – Commercial Building Plans and Specifications

### REVIEW

**Note:** Refer to the *CEC* or the blueprint package as necessary.

**1. What section of the specifications contains a list of contract documents?**

The *General Clauses and Conditions* section

See **Specifications | Proposals | General Conditions**.

**2. The requirement for temporary light and power at the job site will be found in what portion of the specifications?**

Supplementary General Conditions

See **Supplementary General Conditions**.

**3. The electrician uses the Schedule of Drawings for what purpose?**

To determine whether all of the drawings are included in the drawing set

See **Supplementary General Conditions | Schedule of Drawings**.

**Complete the following items by indicating the letter(s) designating the correct source(s) of information for:**

4. Room width	<u>b</u>	a. Site plan
5. Grading elevations	<u>c and/or g</u>	b. Architectural floor plan
6. Ceiling height	<u>g</u>	c. Elevations
7. Panelboard schedules	<u>e</u>	d. Details
8. Exterior wall finishes	<u>g</u>	e. Electrical layout drawings
9. View of interior wall	<u>g</u>	f. Specifications
10. Electrical outlet location	<u>e</u>	g. Sections
11. Electrical receptacle style	<u>h</u>	h. Electrical symbol schedule
12. Swing of door	<u>b</u>	

See **Supplementary General Conditions | The Drawing Set**.

**Match the initialism on the left with the phrase or word that best relates to that organization, document, or person.**

13. SCC	<u>c</u>	a. Accrediting organizations
14. CEC	<u>e</u>	b. Seal
15. ULC	<u>d</u>	c. Manufacturers' standards

- |          |          |                    |
|----------|----------|--------------------|
| 16. PEng | <u>b</u> | d. Listing service |
| 17. CSA  | <u>a</u> | e. Electrical code |

See **Approval of Equipment, Registered Professional Engineer (PEng), and Codes and Standards.**

Write the appropriate letters (a, b, c, or d) to indicate the proper interpretation of the *CEC*.

- |                                   |          |                       |
|-----------------------------------|----------|-----------------------|
| 18. Must be done                  | <u>a</u> | a. Shall              |
| 19. May be done                   | <u>d</u> | b. Special permission |
| 20. Up to the electrician         | <u>d</u> | c. Not allowed        |
| 21. Can never be done             | <u>a</u> | d. Allowed            |
| 22. With the inspector's approval | <u>d</u> |                       |

See **Codes and Standards | Canadian Electrical Code.**

**23. List the drawings that are normally included in an electrical drawing set.**

- Legend of symbols
- Site plan
- One-line diagram
- Lighting layout
- Power layout
- Electrical details
- Schematic and wiring diagrams
- Schedules

See **Supplementary General Conditions | The Electrical Drawing Set.**

**24. List the steps to be followed when working with a set of drawings.**

- Check that the drawing set is complete.
- Review the plans to get a mental view of the project.
- Orient the plans to the site. Add North, South, East, and West to the drawings.
- Check the scale of all drawings.
- Identify the type of construction.
- Read all drawing notes.
- Relate details to larger drawings.
- Note multiple or identical drawings.

See **Supplementary General Conditions | Working with the Drawings.**

**25. Measure the length of each line using the scale indicated.**

- a. 1:100      7.5 m      (75 mm × 100 = 7500 mm)

b. 1:50	<u>4.45 m</u>	(89 mm × 50 = 4450 mm)
c. 1:25	<u>2.25 m</u>	(90 mm × 25 = 2250 mm)
d. 1:75	<u>4.8 m</u>	(64 mm × 75 = 4800 mm)
e. 1:50	<u>3.8 m</u>	(76 mm × 50 = 3800 mm)
f. 1:125	<u>12.13 m</u>	(97 mm × 125 = 12 125 mm)
g. 1:100	<u>7.3 m</u>	(73 mm × 100 = 7300 mm)
h. 1:25	<u>2.23 m</u>	(89 mm × 25 = 2225 mm)
i. 1:50	<u>4.35 m</u>	(87 mm × 50 = 4350 mm)
j. 1:25	<u>2.38 m</u>	(95 mm × 25 = 2375 mm)
k. $\frac{1''}{8} = 1 \text{ ft}$	<u>22' 6"</u>	$(2 \frac{13}{16} \times \frac{1}{8} = 22' 6'')$
l. $\frac{1''}{4} = 1 \text{ ft}$	<u>14'</u>	$(3 \frac{1''}{2} / \frac{1}{4} = 14')$
m. $\frac{1''}{2} = 1 \text{ ft}$	<u>7' 6"</u>	$(3 \frac{3''}{4} / \frac{1''}{2} = 7' 6'')$
n. $1 \frac{1''}{2} = 1 \text{ ft}$	<u>1' 8"</u>	$(2 \frac{1''}{2} / 1 \frac{1''}{2} = 1' 8'')$
o. $\frac{3''}{8} = 1 \text{ ft}$	<u>8'</u>	$(3'' / \frac{3''}{8} = 8')$
p. $\frac{3''}{4} = 1 \text{ ft}$	<u>5'</u>	$(3 \frac{3}{4}'' / \frac{3}{4}'' = 5')$
q. $\frac{1''}{4} = 1 \text{ ft}$	<u>11' 6"</u>	$(2 \frac{7''}{8} / \frac{1''}{4} = 11' 6'')$
r. $\frac{1''}{8} = 1 \text{ ft}$	<u>28'</u>	$(3 \frac{1''}{2} / \frac{1''}{8} = 28')$
s. $\frac{1''}{4} = 1 \text{ ft}$	<u>13' 9"</u>	$(3 \frac{7}{16}'' / \frac{1''}{4} = 13' 9'')$
t. $\frac{1''}{2} = 1 \text{ ft}$	<u>7' 6"</u>	$(3 \frac{3''}{4} / \frac{1''}{2} = 7' 6'')$

See **Supplementary General Conditions | Scale and Supplementary General Conditions | Types of Scale (Measuring Instruments)**.

26. Which of the following is the symbol for duplex receptacle 5-15?



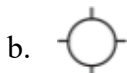
See **The Commercial Building Plans**.

27. Which of the following is the symbol for a 4-way switch?



See **The Commercial Building Plans**.

28. Which of the following is a ceiling outlet?



See **The Commercial Building Plans**.