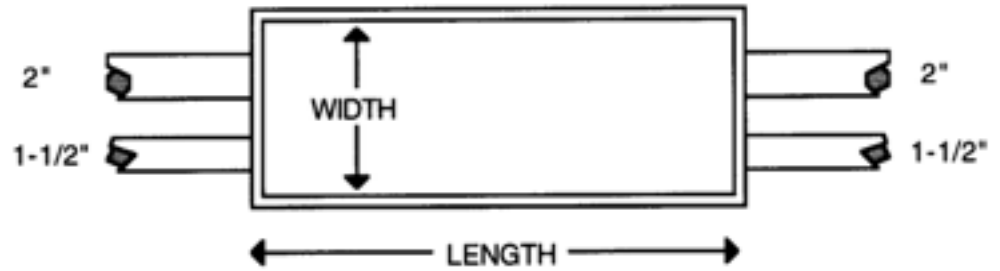
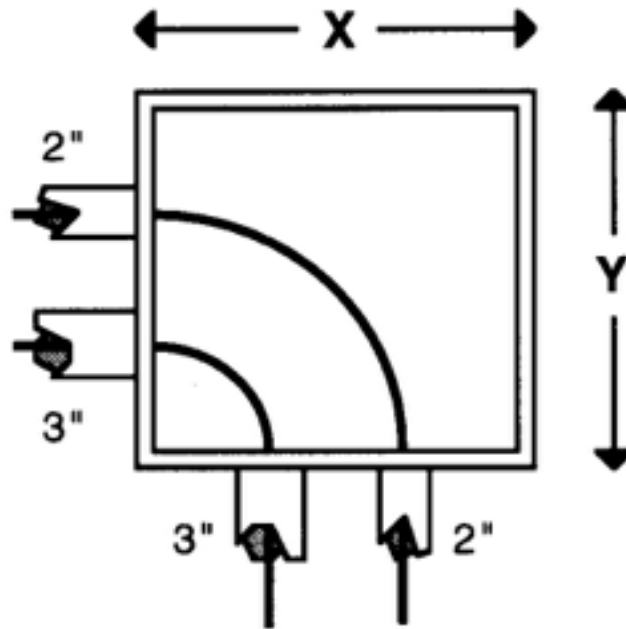


# Pull & Junction Boxes

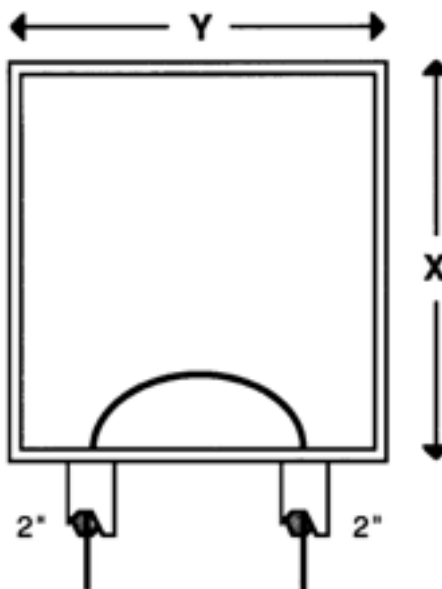
(1) Straight Pull



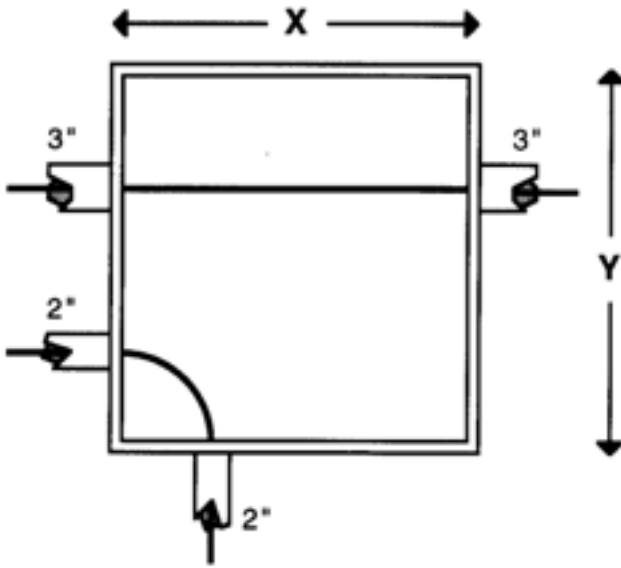
(2) Angle Pull



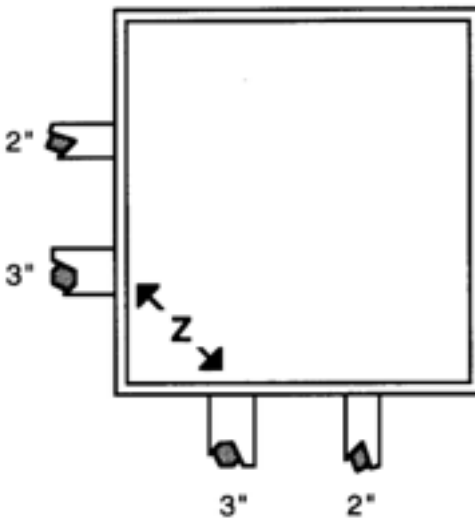
(3) U-Pull



(4) Combination  
Straight & Angle



(5) Conduits  
Containing  
Same  
Conductors



### Article 314: Outlet, Device, Pull-Junction Boxes

1. \_\_\_\_ boxes shall not be used where conduits or connectors requiring the use of locknuts or bushings are to be connected to the side of the box.  
(a) Round                      (b) Shallow                      (c) Device                      (d) Gang
2. The volume of a wiring enclosure (box) shall be the total volume of the \_\_\_\_, and, where used, the space provided by plaster rings, domed covers, extension rings, and so forth, that are marked with their volume in cubic inches, or are from boxes the dimensions listed in Table 370-16 (A).  
(a) enclosure                      (b) outlet                      (c) assembled sections                      (d) none of these
3. When counting the number of conductors in a box, a conductor running through the box (loop wire) is counted as one conductor if not more than \_\_\_\_ inches long.  
(a) 12"                      (b) 13"                      (c) 14"                      (d) none of these
4. The number of #12 conductors permitted in a 3" x 2" x 1-1/2" deep device box is \_\_\_\_.  
(a) 6                      (b) 5                      (c) 4                      (d) 3
5. The minimum volume of a 3" x 2" x 2" device box is \_\_\_\_ cubic inches.  
(a) 12.5                      (b) 14.0                      (c) 10.0                      (d) 7.5
6. An installation requires a device box with a capacity of 10.25 cubic inches. What is the minimum size box allowed ?  
(a) 3" x 2" x 1-1/2"                      (b) 3" x 2" x 2"                      (c) 3" x 3" x 2"                      (d) 3" x 2" x 2-1/4"
7. Conduit bodies shall have a cross-sectional area at least \_\_\_\_ the largest conduit to which they are connected (#6 conductors and smaller).  
(a) once                      (b) twice                      (c) four times                      (d) five times
8. Where nonmetallic-sheathed cable is used, the cable assembly, including the sheath shall extend into the box not less than \_\_\_\_.  
(a) 1"                      (b) 3/4"                      (c) 1/2"                      (d) 1/4"

9. Where nonmetallic sheathed cable is used with boxes no larger than \_\_\_\_ mounted in walls or ceilings and where the cable is fastened within 8 inches of the box, securing the cable to the box shall not be required.
- (a) 1-1/4" x 4"            (b) 2" x 4"            (c) 2-1/4" x 4"            (d) 2-1/2" x 4"
10. The front edge of a switch box installed in a tiled wall can be recessed maximum of \_\_\_\_ inches behind the finished wall.
- (a) 1/4"            (b) 3/8"            (c) 1/2"            (d) not at all
11. The front edge of an outlet box in combustible walls or ceilings shall be \_\_\_\_ with the finished surface.
- (a) set back a minimum of 1/4"            (c) set back a minimum of 1/2"  
(b) set back a minimum of 1/8"            (d) flush with the finished surface
12. Plaster, drywall or plasterboard surfaces that are broken or incomplete shall be repaired so there will be no gaps or open spaces greater than \_\_\_\_ inch at the edge of the fitting or box.
- (a) 1/8"            (b) 1/6"            (c) 3/16"            (d) 1/4"
13. Wood braces used in structural mounting of boxes shall have a cross-section not less than nominal \_\_\_\_.
- (a) 3/4" x 1-1/2"            (b) 1" x 1-1/2"            (c) 1" x 2"            (d) 3/4" x 2"
14. Enclosures supported by suspended ceiling systems shall be fastened to the framing member by mechanical means such as \_\_\_\_.
- (a) clips identified for use            (c) rivets and bolts  
(b) screws            (d) any of these
15. A 76 cubic inch junction box, has two 3/4" rigid conduits entering the bottom of the box, the conduits are supported 36" from the box. Which of the following is a correct statement:
- (a) this box may be supported by wood braces of not less than 3/4" x 1 1/2"  
(b) this box must be rigidly supported by a structural member  
(c) this box is not required to have any other support  
(d) this box may be supported by nails if located within 2" of the back or ends
16. The internal depth of outlet boxes intended to enclose flush devices shall be at least \_\_\_\_.
- (a) 1/2"            (b) 7/8"            (c) 15/16"            (d) 1-1/2"

17. Of the following, \_\_\_\_ box may be used for a floor receptacle.

- (a) a 4-11/16" x 1-1/4" square metal box with device ring listed for the purpose
- (b) a 3" x 2" x 2-1/2" metal device box with device ring listed for the purpose
- (c) a box listed specifically for this application
- (d) none of these

18. Angle-pull dimensional requirements apply to junction boxes only when the size of conductor is equal to or larger than \_\_\_\_ AWG.

- (a) #3/0
- (b) #1/0
- (c) #4
- (d) #6

19. In straight pulls, the length of the box shall be not less than \_\_\_\_ times the trade diameter of the largest raceway.

- (a) 4
- (b) 6
- (c) 8
- (d) 12

20. Where a permanent barrier is installed in a pull box each section is considered as \_\_\_\_.

- (a) permanent barriers are not allowed
- (b) a separate box
- (c) 60% of the box
- (d) the same box

21. What is the minimum thickness of steel box (dimensions 6" x 4" x 3-1/4") ?

- (a) .0625"
- (b) .0747"
- (c) 15 MSG
- (d) 16 MSG

22. A means shall be provided in each metal box for the connection of an equipment grounding conductor. The means shall be permitted to be \_\_\_\_.

- (a) a tapped hole
- (b) the cover screw
- (c) a screw used to mount the box
- (d) any of these

23. For straight pulls, the length of the box shall be not less than \_\_\_\_ times the outside diameter, over sheath, of the largest conductor or cable entering the box on systems over 600 volts.

- (a) 8
- (b) 6
- (c) 36
- (d) 48

24. The distance between a cable or conductor entry and its exit from the box shall be not less than \_\_\_\_ times the outside diameter, over sheath, of that cable or conductor. (1000 volt system)

- (a) 6
- (b) 18
- (c) 36
- (d) 48

25. Covers for pull and junction boxes over 600 volts shall be permanently marked \_\_\_\_.

- (a) "Caution"
- (b) "Danger"
- (c) "Do Not Open"
- (d) "Danger-High-Voltage Keep Out"

Box Fill Calculation...

A box contains:

- 2 fixture wires
- 1 fixture stud
- 1 hickey
- 1 pigtail
- 6 #14 THW conductors (looped through)
- 4 #12 THW conductors (2 entering, 2 leaving)
- 3 grounding conductors
- 1 bonding jumper

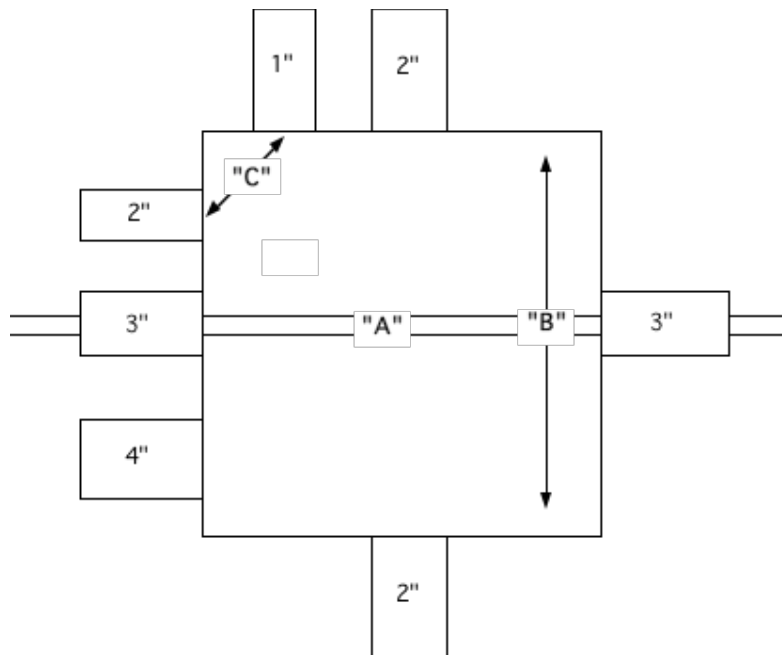
26. The total cubic inch area equals ?

- (a) 25-26"
- (b) 26-27"
- (c) 27-28"
- (d) none of these

27. A \_\_\_\_ square box will best accommodate the cubic inch total.

- (a) 4" x 2-1/8"
- (b) 4-11/16 x 2-1/8"
- (c) 4" x 1-1/4"
- (d) 4" x 1-1/2"

Pull/Junction Box Calculation...



28. The box dimension "A" is \_\_\_\_\_ inches

29. The box dimension "B" is \_\_\_\_\_ inches

30. The box dimension "C" is \_\_\_\_\_ inches