

Carpenter

Practice Interprovincial/Red Seal Exam

Disclaimer: This is NOT an Interprovincial Standards (Red Seal) Examination. This is a practice examination that has been developed using similar weighting, question distribution, question taxonomies and question styles to that of a red seal examination. Success on this examination will NOT result in certification or qualification. This examination is intended to be used for self assessment in preparation for attempting a red seal examination. More information about the standard that the red seal examination is based on may be found within the National Occupational Analysis for the occupation at www.red-seal.ca .

Section 1

OCCUPATIONAL SKILLS

1. Which tool is best suited for transferring a 35° angle from a drawing to a shop project?
 - A. Try square.
 - B. Sliding T-bevel.
 - C. Framing square.
 - D. Combination square.

2. What is the best solution when a circular saw 69 m (200 ft) from a power source has reduced power?
 - A. Use a #10 wire extension cord to handle the power.
 - B. Use a #14 wire extension cord to handle the power.
 - C. Replace the circular saw with one that has lower amperage.
 - D. Move the power source closer to the work site.

3. What is the first thing that should be done before using a pneumatic tool?
 - A. Drain the water from the compressor.
 - B. Drain the oil from the compressor.
 - C. Put a couple of drops of oil into the tool where the air hose attaches.
 - D. Put a couple of drops of water into the tool where the air hose attaches.

4. What procedure is used to ensure an accurate reading of an unknown elevation?
 - A. Start the reading by placing the rod on the unknown elevation and work back to the benchmark.
 - B. Start the reading by placing the builders level on the benchmark, then take the reading of the unknown elevation.
 - C. Start by taking a reading on the benchmark then take the reading on the unknown elevation, move level and take both reading again to confirm elevation.
 - D. Start by taking a reading on the benchmark then take the reading on the unknown elevation, turn level and take the reading at the benchmark to confirm elevation.

5. What should be done when entering a new worksite?
 - A. Workers should avoid all hazardous areas.
 - B. Workers should dress for the hazards encountered.
 - C. Workers must be trained how to use their personal protective equipment.
 - D. Workers must properly wear all personal protective equipment required.

6. What should be done to fill small gaps in an insulated concrete form system?
 - A. Use high expansion foam to ensure a tight seal.
 - B. Use a small bead of low expansion foam to seal.
 - C. Fill with small amounts of concrete prior to pouring.
 - D. Scribe and fit a piece of plywood to fit and the seal gap.

7. What should be placed on top of a concrete foundation wall to isolate the bottom plate from the concrete?
 - A. Sill gasket.
 - B. Filler strip.
 - C. Continuous bead of caulking.
 - D. 25 mm (1") of rigid insulation.

8. When should backfilling of a recently poured foundation wall be done?
 - A. Backfill as soon as possible for safety and to assist in constructing the floor system.
 - B. First construct the floor system, back fill, then apply the dampproofing.
 - C. Install the vapor barrier, construct the floor system, then backfill.
 - D. Install the dampproofing, construct the floor system, then backfill.

9. How should friction fit insulation be installed?
 - A. The insulation must be tightly fit to prevent convection.
 - B. It must be placed in the inner third of the wall.
 - C. It must only fill two thirds of the wall cavity.
 - D. Only install tight enough to fill the gaps and hold itself in place.

10. Which takes precedence if a discrepancy is found in the structural blue prints?
- A. Building section.
 - B. Section view.
 - C. Detail drawings.
 - D. Shop drawings.
11. What are the outside diagonal measurements of a rectangular basement with 200 mm (8") concrete walls, whose length is 30 m (98' 5") and width is 20 m (65' 7½")?
- | | Metric | Imperial |
|----|----------|--------------|
| A. | 35.779 m | A. 116' 4½" |
| B. | 36.333 m | B. 117' 2½" |
| C. | 36.056 m | C. 118' 3½" |
| D. | 36.555 m | D. 119' 11⅛" |
12. You are building on a sloped grade. You need to build a stepped foundation and the top of the front of your foundation is 1 000 mm (39") higher than that of the rear. How many steps are required in the foundation?
- A. 2
 - B. 3
 - C. 4
 - D. 5
13. A line on a blueprint representing a jog in a wall is drawn 4.25" long. At the scale of ¼" = 1', how long should the dimension read for this jog?
- A. 192"
 - B. 16'
 - C. 17"
 - D. 17'

14. In order to draw an isometric foundation corner, which drawing instruments should be used together?
- A. A "T" square and a 45 degree set square on one of the equal sides.
 - B. A "T" square and a 30 degree/60 degree set square to draw on the 30 degree axis.
 - C. A "T" square and a 30 degree/60 degree set square to draw on the 60 degree axis.
 - D. A "T" square and a 45 degree set square on the hypotenuse.
15. Trusses will be delivered on site in large bundles banded together. How does one figure out where each piece goes, and how each piece has been designed to fit and function properly in the roof system?
- A. Architectural blueprints and details.
 - B. Structural blueprints and details.
 - C. Truss schedule and details.
 - D. Manufacturer's drawings and details.
16. There are basic minimum standards for washroom facilities on construction sites. Where can these be found?
- A. Occupational Health & Safety code manuals.
 - B. Local planning and building guidelines.
 - C. National Building Code.
 - D. WHMIS
17. The front setback on a garage is 5 791 mm (19') and the slope from the top of garage slab to the sidewalk is to be 5%. The top of the 102 mm (4") garage slab is located 203 mm (8") below the top of the foundation wall, at the front of the garage. What will be the depth of the buck, and what is to be the difference in height from the front sidewalk to the top of the garage foundation wall?
- A. 203 mm (8") bucks and 289 mm ($11\frac{3}{8}$ ") of height change.
 - B. 203 mm (8") bucks and 492 mm ($19\frac{3}{8}$ ") of height change.
 - C. 305 mm (12") bucks and 289 mm ($11\frac{3}{8}$ ") of height change.
 - D. 305 mm (12") bucks and 492 mm ($19\frac{3}{8}$ ") of height change.

18. A cylindrical water storage tank has $12\frac{1}{4}$ " (310 mm) thick walls and an outside diameter of $27' 8\frac{1}{4}$ " (8.44 m). It is $13' 1\frac{1}{2}$ " (4.0 m) deep. What is the maximum volume of water this tank can hold if its fill line is $\frac{3}{4}$ the distance from the bottom of the tank?

Metric

Imperial

- | | | | |
|----|----------------------|----|------------------|
| A. | 48.029 cubic meters | A. | 1 696 cubic feet |
| B. | 51.913 cubic meters | B. | 2 115 cubic feet |
| C. | 144.087 cubic meters | C. | 5 088 cubic feet |
| D. | 155.738 cubic meters | D. | 5 500 cubic feet |
19. What depth of trench is allowed to be dug without any protective measures such as shoring or cutback angle?
- A. 1.2 m (3' 11")
 - B. 1.5 m (4' 9")
 - C. 1.8 m (5' 11")
 - D. 2.0 m (6' 7")
20. What is the minimum length a scaffold plank must overhang the scaffold transom at each end?
- A. 125 mm (5")
 - B. 150 mm (6")
 - C. 175 mm (7")
 - D. 200 mm (8")
21. What type of scaffold requires counterweights?
- A. Frame.
 - B. Rolling.
 - C. Cantilever.
 - D. Tube and clamp.

22. What is the minimum length of ladder required to climb 2.532 m ($8' 3^{11}/_{16}"$) vertically to another floor?

Metric

Imperial

- A. 4.0 m
- B. 3.7 m
- C. 3.5 m
- D. 3.2 m

- A. $13' 4\frac{1}{2}"$
- B. $12' 1\frac{5}{8}"$
- C. $11' 5\frac{3}{4}"$
- D. $10' 5"$

Section 2

CONCRETE

23. Why should wood and metal shores posts never be used together under the formwork for a suspended slab?
- A. Wood shores can never be wedged to the same snugness as metal.
 - B. Metal shores must be laced but wood shores do not require lacing.
 - C. Wood and metal react differently to loading so therefore a failure could occur.
 - D. Metal posts have more reusability so they should be used for cost and efficiency.
24. What procedure should be done when lowering a fly form and moving it out from a suspended slab?
- A. Reshore immediately in specified locations and then position fly form above.
 - B. Shore immediately in specified locations and then position fly form above.
 - C. Pull the fly forms horizontally with the crane so that reshoring can occur sooner.
 - D. Reshoring occurs simultaneously with the placing of the fly form above.
25. When constructing a matt footing, the outside forms are built with the loose forming method of snap ties, wedges, studs, and double walers. How are the inside of the ties held together?
- A. Snap ties, wedges, studs, and double walers.
 - B. Snap ties welded to the reinforcing steel.
 - C. Snap ties and wedges at the bottom and spandrel ties at the top.
 - D. Snap ties with a special attachment clip that connects to the reinforcing steel.

26. When an excavation has been dug 50 mm (2") too deep, what procedure should be used to set the footing elevation?
- A. Drop the forms for the footings two inches also so extra concrete is not required.
 - B. Set the forms to required height and fill the bottom of them with dirt so extra concrete is not required.
 - C. Set the forms to the proper height and pour them full even though extra concrete is required.
 - D. Over excavation now must take place to ten inches minimum so that extra thickness in footing can carry extra loading.
27. What should be installed to protect the butt of a wood pile brooming during the driving procedure?
- A. Pile shoe.
 - B. Rubber cap.
 - C. Metal point.
 - D. Pile ring.
28. What procedure is used when installing corners for formwork?
- A. Plumb in both directions and brace them immediately.
 - B. Plumb in one direction only and brace because the form will be pulled to plumb in the other direction when straightening walls.
 - C. Do not be concerned with plumbing of corners until entire wall forms are set.
 - D. Get close to plumb in both directions and then fine tune them after all wall forms are set.

29. In the snap tie system of forming, the wedges should be placed at a slight angle to increase their bearing on the structural forming members. What else should be done?
- A. The wedges should be hammered as tight as possible and tacked with two duplex nails to prevent dislodging.
 - B. They should be nailed with two duplex nails and the large hole up to prevent dislodging and make stripping easier.
 - C. They should be nailed with two duplex nails and the large hole down to prevent dislodging and make stripping easier.
 - D. They should be hammered snug and tacked with two duplex nails to prevent dislodging.
30. When setting up shoring for a suspended slab, what mathematical processes must occur so that slab is poured at correct height?
- A. Height of shore plus depth of joist plus thickness of formply equals bottom of pour.
 - B. Height of shore plus depth of joist plus thickness of formply plus thickness of slab equals top of pour.
 - C. Height of shore plus depth of stringer plus depth of joist plus thickness of formply plus thickness of slab equals top of pour.
 - D. Height of shore plus depth of stringer plus depth of joist plus thickness of formply equals top of pour.
31. When forming a construction joint for a suspended slab pour, what procedure should be used to allow for the easiest stripping without bending rebar?
- A. Rows of solid forming material directly above and below bars can be long pieces.
 - B. All rows of solid forming material should be short pieces.
 - C. All rows of solid forming material except the kicker row should be short pieces.
 - D. All rows of solid forming material below the top mat of steel should be short pieces

32. What should be done when forming in order to prevent discoloring of concrete at column corners?
- A. Install chamfer strips in the form corners.
 - B. Ensure tight fitting column corners.
 - C. Make sure corners have extra release agent.
 - D. Install a cove strip in the form corners.
33. When installing column forms, where should the column be pour too for a future flat slab?
- A. Be set at underside of dropped panel.
 - B. Be set at underside of slab.
 - C. Be set at the underside of the column capital.
 - D. Be set at underside of concrete beam.
34. When pouring a concrete stair, how can the riser face be repositioned if lateral deflections have taken place?
- A. By adding some water to the concrete and continuing to pour at a slower rate.
 - B. By repositioning the ends of the riser stock to align with the bowed section.
 - C. By using an inverted stringer, wedging the riser stock slightly back beyond straightness and then continuing to pour.
 - D. By removing the concrete to allow the form to spring back into place, then replacing the concrete a little at a time.
35. When pouring wing walls that will house a closed concrete stair, what procedure should be used so the inverted stringers can be easily attached?
- A. Set ready rod ties in concrete in specified locations for attachment.
 - B. Set threaded inserts into concrete in specified locations for attachment.
 - C. Set taper ties into concrete in specified locations for attachment because they can be removed and filled with grout later.
 - D. Use explosive actuated tools to attach inverted stringers because there is less chance for error of attachment locations.

36. An exterior stair for a full care facility has a total rise of 832 mm ($32\frac{3}{4}$ ") and the suggested unit rise is 125 mm (6"). Using the 430 mm (17") guideline, what is the unit rise and unit run for this stair?

	Metric		Imperial
A.	118.9 mm – 311.1 mm	A.	$5\frac{1}{2}$ " – $12\frac{1}{2}$ "
B.	125.0 mm – 305.0 mm	B.	6" – 11"
C.	138.7 mm – 291.3 mm	C.	$6\frac{1}{2}$ " – $10\frac{1}{2}$ "
D.	201.3 mm – 228.7 mm	D.	$8\frac{1}{8}$ " – $8\frac{7}{8}$ "

37. What procedure is used when forming post tensioned suspended slabs and installing the reinforcement?
- A. Set the mechanical sleeves and inserts before post tensioning tendons.
 - B. Set the chairs for post tensioning tendons so that they are all at the same height (top third of the slab).
 - C. Set the regular reinforcing steel before post tensioning tendons.
 - D. Set the chairs for post tensioning tendons at so that they remain in the tension third of the slab.
38. When placing longitudinal and temperature steel for an exterior concrete stair, how is the size of steel required determined and where to tie the steel to achieve proper concrete coverage all around?
- A. Refer to the architectural drawings.
 - B. Refer to the largest scale architectural detail that shows the stair.
 - C. Refer to the structural drawings.
 - D. Refer to the largest scale structural detail that shows the stair.

39. What is a tag line?
- A. A line attached to the workers so they cannot fall off a floor slab.
 - B. A line attached to the fly forms to keep them from spinning.
 - C. A line attached to the fly form to keep it from falling if the crane cable fails.
 - D. A line attached to the fly form so it can be pulled horizontally to the edge of the building for lifting to the next floor.
40. When form watching below a suspended slab pour what must be carefully check and watch for?
- A. That formply seams running in the direction of the joists are no more than four feet long.
 - B. That joists are not cracked below the weight of the stringers.
 - C. That the stringers are wedged tight in the U-heads.
 - D. That the scaffolding/shoring and all uprights are tight and loaded evenly.
41. What procedure is used to ensure a true surface is achieved when pouring a concrete slab?
- A. Screeding and power floating.
 - B. Screeding and bullfloating.
 - C. Bullfloating and trowelling.
 - D. Screeding and fresnoing.
42. What is one critical step to ensure proper curing of concrete?
- A. Place a polyethylene barrier on the ground before concrete placement.
 - B. Place a polyethylene barrier on the ground and wet it before concrete placement.
 - C. Place a polyethylene sheet immediately on top of the freshly finished concrete so it does not have a chance to dry out.
 - D. Place dry burlap on top of the freshly finished concrete and spray it with water an hour later so the concrete can begin to set up.

43. What is one method that can be used to prevent concrete from freezing in cold weather?
- A. Direct fired heaters.
 - B. Insulated tarps.
 - C. Concrete accelerators.
 - D. Concrete retarders.
44. For precast and tilt-up structures, temporary bracing can be attached to inserts in the member itself and a ground member. What must be confirmed before lifting panels and attaching bracing?
- A. The proper inserts are used and concrete is strong enough.
 - B. Concrete has achieved its seven day design strength and then inserts installed.
 - C. The inserts are precast and concrete has achieved its seven day design strength.
 - D. The proper inserts are installed correctly and concrete is strong enough.
45. For which type of grout is it most critical to build tight and well fitted forms?
- A. Epoxy.
 - B. Non-shrink.
 - C. Gas expansive.
 - D. Drypack.

Section 3

FRAMING

46. When framing an engineered floor system for a residential house, what information is required to fasten the two double joists carrying the stair headers?
- A. Check the specs on the blueprints and fasten accordingly.
 - B. Check the nailing specs in section 9 of the Canadian Building Code and fasten accordingly.
 - C. Check with the framing foreman who knows the proper nailing specs and fasten accordingly.
 - D. Check the specs on the manufacturer's drawings and fasten accordingly.
47. In preparation for building the first floor of a residence, location of the stairwell is critical. How can this be done accurately and properly for each house?
- A. Find the measurements on a manufacturer's floor detail and build on site.
 - B. Check the blueprints and manufacturer's details relative to actual site location of pads and strip footings before building.
 - C. Find the measurements on the blueprints and build on site.
 - D. Check both the blueprints and the manufacturer's detail and build on site.
48. A building is 5 000 mm (16' 5") wide with a 38 x 140 mm (2" x 6") mudsill flush to the outside of the building all the way around. With no central support members, what is the minimum supported joist length required to frame this floor?

	Metric	Imperial
A.	4 720 mm	A. 15' 7"
B.	4 796 mm	B. 15' 9"
C.	4 800 mm	C. 16'
D.	4 924 mm	D. 16' 2"

49. Which figures should be used on the framing square to lay out the cross bridging for 38 mm x 254 mm (2"x 10") floor joists spaced 400mm (16") on centre?

	Metric	Imperial
A.	235 mm and 360 mm	A. 8½" and 14½"
B.	235 mm and 400 mm	B. 9¼" and 16"
C.	254 mm and 260 mm	C. 10" and 14½"
D.	254 mm and 400 mm	D. 10" and 16"

50. When laying out a header joist for solid lumber joists, where should the first layout mark be made?

- A. Measure one OC spacing less 25 mm (1"), make mark and an "X" away from tape end.
- B. Measure one OC spacing less half the regular joist thickness, make a mark and an "X" away from the tape end.
- C. Measure one OC spacing, make a mark and an "X" away from the tape end.
- D. Measure one OC spacing plus half a joist thickness, make a mark and an "X" away from the tape end.

51. If the final window size from outside of jamb to outside of jamb is 830 mm (32¾"), what is the length of the header required for this window?

	Metric	Imperial
A.	954 mm	A. 33½"
B.	906 mm	B. 35¾"
C.	931 mm	C. 36¾"
D.	956 mm	D. 37¾"

52. In order for a framing carpenter to allow for best load transfers and ease of installation of piping, wiring, and ductwork, what is the best way to layout an exterior wall at the front of the house?

- A. From left to right at 16" OC.
- B. From left to right at 24" OC.
- C. From left to right at whatever the OC spacing is of the floor joists.
- D. From whichever end the floor joists were laid out and at the floor joist spacing.

53. If a finished window size (outside of jamb to outside of jamb) is 1 220 mm x 720 mm (48" x 28") and its center is located at 4 400 mm (14' 5") from the SE corner of a house, at what mark from the SE corner will the window side of the closest trimmer be located?

- | | Metric | | Imperial |
|----|------------|----|----------|
| A. | 3 180 mm | A. | 12' 3¼" |
| B. | 3 777.5 mm | B. | 12' 4½" |
| C. | 3 790 mm | C. | 12' 7½" |
| D. | 3 797.5 mm | D. | 12' 10¼" |

54. When sheathing an exterior wall, where should the sheathing begin for a wall that runs short of the exterior?

- A. Flush with the end of the wall at the beginning end.
- B. Flush with the end of the wall only at the beginning end.
- C. Hanging over the wall one stud thickness at the beginning end.
- D. Hanging over the wall one exterior wall thickness at the beginning end.

55. Lapped ceiling joists on a central bearing wall are laid out at 400 mm (15 $\frac{1}{4}$ ") back and 400 mm (15 $\frac{1}{4}$ ") away respectively to the exterior walls they are attached to. What happens to the rafter layout at the ridge?
- A. The rafters butt into the ridge directly opposing each other.
 - B. The rafters are butted to one another at the ridge.
 - C. The rafters are offset directly opposite the ceiling rafters below them.
 - D. The rafters are laid out the same as the ceiling joists below them.
56. On a stick framed gable roof, the sheathing has been pushed away from the rafters all along the two outside walls above the birdsmouths. Which of the following is likely to have happened?
- A. The ridge is sagging.
 - B. The seat cut on the ceiling joists were cut perfectly flush with the top of the rafter.
 - C. The outside walls are sagging.
 - D. The seat cut on the ceiling joists were cut 10 mm lower than the rafter edge causing it to sag.
57. A homeowner has an issue with headroom going from a dining room to a living room due to a large dropped beam carrying roof loads. What is the best solution to solve this issue?
- A. Lift the dropped beam up into the trusses to make it a flush beam.
 - B. Cut the existing roof off and use trusses in that area to reduce loading.
 - C. Lift the dropped beam up into the ceiling joists to make it a flush beam.
 - D. Cut the existing roof off and stick frame that area to decrease loading.

58. On an intersecting roof, what happens to the design length of the given rafters if the minor span is increased?
- A. Supporting valley rafter lengthens but the supported valley rafter remains the same because it is already supported.
 - B. Supporting valley rafter stays the same because it remains attached to the major ridge at the same point.
 - C. Both supporting valley rafters and supported valley rafters are lengthened.
 - D. Supporting valley rafter remains the same, but it may or may not be attached to the major ridge at the same location.
59. On a 9 m (30') house span, trusses are designed for 10 m (34') to allow a small covering over the front entry. What is a likely cause if that roof begins to drastically sag at the front exterior wall?
- A. The trusses are simply deflecting normally as designed.
 - B. The trusses were all installed backwards and the bearing supports are 1.3 m (4') from the back wall.
 - C. The exterior front wall has shrunk due to drying of plates.
 - D. The front exterior wall must be bowing outward because the trusses cannot deflect like that at the heels.
60. In a dimension lumber floor system, cross bridging is one way of dealing with joist restraint. When should the bottoms of the cross bridging be fastened?
- A. Immediately while building floor so the floor is complete before sheathing.
 - B. Once floor sheathing is complete because now joists have been nailed straight.
 - C. Before the subtrades come in so they can not knock them out as easily.
 - D. Just prior to drywalling so floor has had time to straighten and settle.

61. Diagonal top chord braces are critical to prevent the top chords from buckling under forces such as wind. How else can this be done so the braces do **not** have to be removed when sheathing the roof?
- A. Run the diagonal top chord braces on the underside of the top chords.
 - B. Diagonal web bracing at each gable end running in both directions (an "X").
 - C. Run diagonal web braces at each gable end from top of gable and angled back to the fourth or fifth bottom chord.
 - D. Run all the truss top chord lateral braces on the underside of the top chord.
62. What must be done to a dimensional lumber floor system to stiffen the joists?
- A. Install continuous stiffeners to all joists at 600 mm (2') o/c.
 - B. Install vertical stiffeners to all joists at 600 mm (2") o/c.
 - C. Install 2x4 blocks between joists at 1800 mm (6') o/c max.
 - D. Install cross-bridging between joists at 2100 mm (7') o/c max.
63. How should web stiffeners be installed where an I joist bears on an interior load bearing partition?
- A. With a 1/4" gap at both chords.
 - B. Tightly between top and bottom chord.
 - C. With a 1/4" gap at the top chord and tight to the bottom chord.
 - D. Tight to the top chord with a 1/4" gap at the bottom chord.
64. A water closet is located on an interior wall and the soil pipe must pass thru three I joists to reach the stack what procedure is used?
- A. Notch the top chord of the joist.
 - B. Notch the bottom chord of the joist.
 - C. Drill holes as far from the bearing wall as possible.
 - D. Drill the holes as close to the bearing wall as possible.

65. In balloon framing what procedure is used to install the second floor, floor joist?

- A. Nail blocking between studs at under side of joist and nail joist to stud.
- B. Let in continuous 1x4 ledger at under side of joist and nail joist to stud.
- C. Nail joist to stud with six 3½" coated nails and 2 lag bolts.
- D. Nail joist to stud and set a cripple under each joist.

66. Using the following specification, what is the rough opening for the exterior door?

Door size 8 500 mm x 2 012 mm (31¾" x 79¼").

Jamb size 28 mm (1⅛").

Rabbit depth 12 mm (½").

Threshold 32 mm (1¼").

Allow 12 mm (½") clearance around including under threshold.

	Metric		Imperial
A.	856 mm x 2084 mm	A.	34" x 82¼"
B.	860 mm x 2182 mm	B.	33¾" x 82"
C.	860 mm x 2200 mm	C.	33" x 82¾"
D.	890 mm x 2190 mm	D.	35¼" x 82½"

67. How should exterior plywood wall sheathing be installed?

- A. Long dimension parallel to studs.
- B. Long dimension at right angle to studs.
- C. Either direction is acceptable.
- D. Right angle to studs on bearing walls parallel to studs on gable end walls.

68. What procedure is used to square an exterior framed wall prior to being sheathed?

- A. Use the 3-4-5 method to square wall.
- B. Use the first sheet of sheathing to square wall.
- C. Measure the diagonals to square wall.
- D. Line bottom plate and first stud up with floor sheathing to square wall.

69. What is the theoretical line length of the common roof rafter with a span of 8 600 mm (28' 6") and having a 100:250 (5:12) slope?

- | | Metric | | Imperial |
|----|--------|----|-------------------------------------|
| A. | 9 m | A. | 15' 3 ³ / ₄ " |
| B. | 1 m | B. | 15' 5 ¹ / ₄ " |
| C. | 2 m | C. | 15' 6 ³ / ₄ " |
| D. | 4 m | D. | 15' 8 ¹ / ₄ " |

70. What is the theoretical line length of the third gable and stud framed 406 mm (16") on centre from the corner on a roof with 2:3 (8:12) slope?

- | | Metric | | Imperial |
|----|----------|----|--------------------------------------|
| A. | 813 mm | A. | 2' 8" |
| B. | 1 024 mm | B. | 3' 4 ⁹ / ₁₆ " |
| C. | 1 465 mm | C. | 4' 9 ¹¹ / ₁₆ " |
| D. | 2 097 mm | D. | 6' 18 ³ / ₈ " |

71. What is the length of a hip rafter on a roof with a slope of 1:2 (6:12) and having a run of 3 600 mm (12')?

- | | Metric | | Imperial |
|----|--------|----|----------|
| A. | 4.80 m | A. | 16" |
| B. | 4.95 m | B. | 16' 6" |
| C. | 5.40 m | C. | 18' |
| D. | 5.55 m | D. | 18' 6" |

72. For an unequal slope roof with an equal overhang, what procedure is used to keep the soffit the same?
- A. Raise the wall under the minor roof by the difference in rise of the roofs over the run of the overhang.
 - B. Raise the ridge of the minor roof to the ridge of the major roof.
 - C. Raise the wall under the major roof by the difference in rise of the roofs over the run of the overhang.
 - D. Raise the wall under the minor roof by the difference in height of ridges of the two roofs.
73. When rafters are placed opposite each other and ceiling joists are supported on a bearing wall, how are the joists installed?
- A. Be placed on the same side of the joists, butted together at the bearing wall and toe-nailed to the bearing wall.
 - B. Set on opposite sides of the rafters, lapped over the bearing wall and nailed together.
 - C. Set on opposite sides of the rafters, lapped over the bearing wall, spaced with a block and nailed together.
 - D. Set on the same side of the rafters, lapped over the bearing wall and nailed together.
74. When installing scissor trusses how should they be attached to the exterior bearing wall?
- A. Installing hurricane clips.
 - B. Nail down thru the top chord with galvanized nails.
 - C. Installing a dedicated scissor truss hanger.
 - D. Toe-nailing to the top plate on both sides of the truss.

75. How is truss roof sheeting installed?
- A. Install ridge blocking, all permanent bracing and remove temporary bracing.
 - B. Remove all temporary bracing and sheet roof.
 - C. Install ridge blocking, sheet roof and remove temporary bracing as it gets in the way of the sheeting then install the permanent bracing.
 - D. Install ridge blocking and permanent bracing then remove temporary bracing as it gets in the way of the roof sheeting.
76. How is an exterior door installed where the floor is **not** level?
- A. Insure that the frame is square and install it out of plumb so that the threshold maintains full contact with the floor.
 - B. Shim threshold at $\frac{1}{4}$ points to insure the frame is plumb, caulk gap and insulate where possible.
 - C. Shim the low side of the jamb to level and plumb frame and fill gap with expanding foam insulation.
 - D. Cut a continuous shim full width of the door to level and plumb frame, caulk shim to floor and threshold to shim then insulate.
77. An exterior door is installed in a rough opening and the top corner on the strike side does **not** close tight to the weather-stripping. How is this corrected?
- A. Shim behind the brick mould at the bottom on the strike side and at the top on the hinge side.
 - B. Shim behind the brick mould at the bottom on the hinge side and at the top on the strike side.
 - C. Shim behind the brick mould at the bottom of the strike side.
 - D. Shim behind the brick mould at the top on the hinge side.

78. If the top of a window is 400 mm (16") below the soffit and the roof overhang is 600 mm (24"). How is the window weather proofed?
- A. Install a double layer of building paper at the top of the window.
 - B. Use a peel & stick membrane around the window.
 - C. Install a flashing under the moisture barrier at the top of the window.
 - D. Install moisture barrier over nailing fin at the top of the window.
79. When installing a window, where should the sill shims be placed?
- A. At the $\frac{1}{3}$ points of the sill.
 - B. Directly in line with the jambs.
 - C. At the $\frac{1}{4}$ points of the sill.
 - D. Temporarily until window is securely fastened in place and then removed.
80. When gaining hinges with a router template how should the template be placed?
- A. Equal distance down on door and jamb.
 - B. 3 mm ($\frac{1}{8}$ ") lower on door than on jamb.
 - C. 3 mm ($\frac{1}{8}$ ") lower on jamb than door.
 - D. 3 mm ($\frac{1}{8}$ ") higher on jamb than door
81. When installing a bi-fold door, what adjustments must be made if the door is binding at the side jamb on the top?
- A. Adjust the top pivot.
 - B. Adjust the bottom pivot.
 - C. Bevel the edge of the door.
 - D. Shim the jamb and adjust door trim.

82. What is required before installing asphalt shingles to a roof?
- A. Install eave protection.
 - B. Install roof edge.
 - C. Install first row of shingles.
 - D. Install roof vents.
83. When a chimney on a sloped roof is more than 750 mm (30") wide, what must be done to protect the roof from the build-up of snow at the junction?
- A. Install a saddle.
 - B. Install flashing at least 150 mm (6") up the chimney.
 - C. Install a flat section of roof behind the chimney.
 - D. Install a membrane flashing up the chimney.
84. What is the minimum ventilation required with openings to the exterior for an insulated roof space?
- A. $\frac{1}{200}$ of the insulated ceiling space.
 - B. $\frac{1}{300}$ of the insulated ceiling space.
 - C. $\frac{1}{400}$ of the insulated ceiling space.
 - D. $\frac{1}{500}$ of the insulated ceiling space.
85. What procedure is used to install asphalt shingles around a masonry chimney?
- A. Install step flashing, roofing and then counter flashing.
 - B. Install roofing, counter flashing and then step flashing.
 - C. Install step flashing, counter flashing then roofing.
 - D. Install roofing and step flashing alternately and then counter flashing.

86. When attaching angle iron to support a masonry veneer on a four story building how is it fastened to the building structure?
- A. At the top of grade level foundation wall only.
 - B. At the top of foundation wall and midpoint of the building.
 - C. At the top of foundation wall and every other floor level.
 - D. At the top of foundation wall and at each floor level.
87. What must be done prior to installing vertical vinyl siding to a wall?
- A. Install horizontal strapping at 600 mm (24") o/c.
 - B. Install horizontal strapping at 1200 mm (48") o/c.
 - C. Install vertical strapping at 400 mm (16") o/c.
 - D. Install vertical strapping at 600 mm (24") o/c.
88. How is a close cornice constructed?
- A. Cutting rafter tails flush with the building and lapping fascia over sheathing.
 - B. Carrying the sloped soffit line of the gable to the horizontal fascia.
 - C. Continuing the horizontal soffit line to the gable overhang and plumbing up to create a "pork chop".
 - D. Sloping the soffit to match the roof slope and covering the wall to soffit junction with a cornice molding.
89. How should horizontal vinyl siding be at outside corners?
- A. Mitered at the outside corners.
 - B. Butted into vertical corner posts.
 - C. Installed with vinyl corners allowing room for expansion.
 - D. Butted at the outside corner and covered with a vinyl corner post.

90. What should be done to prevent the build-up of moisture between a rainscreen type cladding and the outside face of the wall?
- A. Provide drainage holes every 1200 mm (4').
 - B. Seal continuously to insure no water can get in.
 - C. Provide a secondary drainage plane and weep holes.
 - D. Install vertically so water will run off without penetrating.
91. Where should a frieze board be attached to the exterior of a building?
- A. Attached above the windows and doors first then down the sides.
 - B. Installed vertically at the corners of the building.
 - C. Installed horizontally at the junction of the wall and soffit.
 - D. Installed horizontally at the junction of the foundation and the framed wall.
92. What is the first procedure before installing vertical solid wood wainscoting?
- A. Strap wall first then apply vertical members.
 - B. Apply vertical members directly to wall with PL 400 and face nail at every stud.
 - C. Pre-mount the solid wood wainscoting on a piece of plywood and glue to wall in sections.
 - D. Strap the wall horizontally and shim to achieve a flat plane before installing vertical members.
93. For a T-bar ceiling system, how many 600 mm x 1 200mm (2' x 4') ceiling tiles would be required in a room measuring 4 670 mm x 5 800 mm (14' 7" x 18' 4")?
- A. 38
 - B. 40
 - C. 42
 - D. 44

94. What procedure is used to prevent sound transmission between suites in a multi-family dwelling?
- A. Install resilient channels between the stud and wall finish and add acoustic insulation.
 - B. By leaving a 1" air space between the exterior sheathing and the wall cladding.
 - C. By using expanded foam to insure that there are no gaps for the sound to pass thru.
 - D. By using a low density gypsum to dampen the sound and add acoustic insulation.
95. What is the proper method of applying baseboard at carpet and linoleum locations when there are two different elevations?
- A. Scribe baseboard over carpet line.
 - B. Use mitre joints at carpet and linoleum intersection.
 - C. Cut a bevel cut on baseboard over carpet line 24" long.
 - D. Cut carpet back so baseboard is at the same elevation as the linoleum.
96. What must be done before installing resilient flooring?
- A. Sweep and vacuum sub-floor to insure there is no grit or other bumps that will telegraph thru the finish floor.
 - B. Screw down $\frac{3}{8}$ " particle board.
 - C. Screw down $\frac{1}{4}$ " fir plywood.
 - D. Nail/staple acceptable underlay material.
97. What substrate is required to install a ceramic tile floor in a bathroom?
- A. Flood with self leveling cement to insure a smooth, flat surface to work on.
 - B. Install a minimum $\frac{1}{2}$ " plywood underlay.
 - C. Install a minimum $\frac{1}{2}$ " particle board.
 - D. Install $\frac{1}{4}$ " 'silvapply/ulay' underlay.

98. To insure a consistent reveal where should the shims be placed when installing an interior door frame?
- A. At the top, bottom and centre on both sides.
 - B. Behind each hinge and top, bottom and centre on strike side.
 - C. Between head jamb and lintel and centre and bottom of side jambs.
 - D. Behind each hinge and behind strike and opposite hinges on the strike side.
99. What is required when a fire exit door is required leaving a stairwell?
- A. Panic hardware and a door light with Georgian wired glass.
 - B. Panic hardware a door closer and a rated door.
 - C. Panic hardware, a door closer and a rated door and frame.
 - D. Ball bearing hinges and a door closer.
100. What adjustment must be made when closing a casement window, if the lock mechanism will **not** close fully (too tight)?
- A. Moving the locking arm in towards the window.
 - B. Moving the latch up.
 - C. Moving the latch down.
 - D. Moving the latch in.
101. What is the first procedure when installing a steel door frame in a masonry wall?
- A. Plumb the jamb on the hinge side.
 - B. Level the head jamb.
 - C. Fasten the jamb to the floor.
 - D. Insert the masonry anchors.

102. When installing panic hardware on a fire exit door at the top of a stairwell, where should it be mounted?
- A. Inside the stairwell.
 - B. Outside the stairwell.
 - C. With a parallel arm inside the stairwell.
 - D. At the same height as the fire alarm pull.
103. What procedure should be used for constructing a balustrade on a finished stair?
- A. Cut the handrails, fit the balusters and plumb the newels.
 - B. Cut the handrails, plumb the newels and fit the balusters.
 - C. Plumb the newels, fit the balusters and cut the handrails.
 - D. Plumb the newels, cut the handrails and fit the balusters.
104. A stair using the maximum rise and the minimum run is too long for an existing rough opening. What is the best solution for the problem?
- A. Increase the riser height to steepen the stair just enough to clear the headroom.
 - B. Decrease the tread size by shortening the nosing just enough to clear the headroom.
 - C. Cut out the header and rebuild the R.O. to suit.
 - D. Install a set of winders.
105. What is the inside spindle spacing if the newel posts are 1 628 mm (5' 4") apart (in-between) and the spindles are 35 mm ($1\frac{1}{16}$ ") wide?
- | Metric | Imperial |
|--------------|---------------------|
| A. 86.28 mm | A. $3\frac{5}{8}$ " |
| B. 92.92 mm | B. 4" |
| C. 100.66 mm | C. $4\frac{1}{4}$ " |
| D. 109.82 mm | D. $4\frac{5}{8}$ " |

106. What defines the stringer for a circular stair?
- A. The slope of both stringers are the same.
 - B. The slope of the outside stringer is greater than the slope of the inside stringer.
 - C. The slope and run of both stringers are the same.
 - D. The slope of the inside stringer is greater than the slope of the outside stringer.
107. When building a mortising jig for a $3\frac{1}{2}$ " x $3\frac{1}{2}$ " butt hinge, what is the length of the cutout?
- A. $3\frac{1}{2}$ " + the difference in diameter of the router bit and the guide bushing.
 - B. $3\frac{1}{2}$ " + $\frac{1}{2}$ the difference in the diameter of the router bit and the guide bushing.
 - C. $3\frac{1}{2}$ " + the diameter of the guide bushing.
 - D. $3\frac{1}{2}$ " + $\frac{1}{2}$ the diameter of the guide bushing.
108. What is the best product for a clear-coat finish on an exterior wooden deck rail?
- A. Spar varnish.
 - B. Shellac.
 - C. Lacquer.
 - D. Waterborne lacquer.

109. The last panel on a wall has to be cut to fit, what is the best way to do this?
- A. Cut the panel approximately 25 mm (1") wide, tack in place plumb to last panel and set scribing tool to mark 25 mm (1").
 - B. Cut panel approximately 25 mm (1") wide, tack in place plumb to last panel and set scribing tool to mark exactly the width of the overlap.
 - C. Tack panel in place and scribe to fit wall then trim panel to fit the last panel installed.
 - D. Cut the panel to fit between the wall and the last panel and cover the corner joint with a molding.
110. How are sequence matched paneling installed?
- A. Will arrive on site numbered in sequence, and must be installed that way.
 - B. Can be installed in any order as long as they are not turned upside down.
 - C. Must be placed on the long walls first in order to maintain the pattern.
 - D. Can only be used on walls that have no doors or windows.

End of practice.