ASSOCIATION OF CANADA LANDS SURVEYORS
BOARD OF EXAMINERS

EXAMINATION P1
ACTS AND REGULATIONS RELATING TO SURVEYS OF CANADA LANDS

October 2015

This examination consists of 9 questions on 5 pages.

Marks

Q. No	Time: 3 hours	Value	Earned
1.	The National Standards for the Survey of Canada Lands requires all surveys to be geo-referenced. a) What geo-referencing datum and epoch shall be used to geo-reference a survey? b) Outline the minimum survey requirements to geo-reference a survey. c) Briefly describe the geo-referencing information that must be shown on a plan of survey. d) List three factors that should be taken into consideration in choosing geo-referenced locations.	2 5 4 2	
2.	The 2014 Interdepartmental Letter of Agreement between Natural Resources Canada and Aboriginal Affairs and Northern Development specify the type of land descriptions for various land transaction on Reserves. What type of survey and type of plan is required for the following land transactions on Reserves: a) Section 35 Indian Act transfer of a highway through a reserve b) Section 20 Indian Act allotment of land c) Lease of land for longer than 10 years d) Lease of land for 10 years or less e) Lease of building unit for longer than 10 years f) A non-exclusive use permit or license	2 2 2 2 2 2	
3.	MyCLSS is a website application used by Canada Lands Surveyors to initiate (create) survey projects and request survey instructions. a) The application requires the surveyor to enter where the survey is located and what type of survey is required. What additional information is normally required to request survey instructions? b) How else is MyCLSS used by surveyors to process their survey documents?	3 3	

4.	In what situation does a survey report need to be submitted to the Surveyor General Branch with a plan of survey? What information must be included in the survey report?	6	
5.	The owner of a Lot 1015 in Yukon, which is 65 ha in size, wants to transfer a 6 ha portion of her lot to her daughter, and to retain the remaining 59 ha in her name under certificate of title. She has hired you as a Canada Lands Surveyor to subdivide her titled lot and to guide her through the process to register a subdivision plan in the Land Titles office and transfer title for the 6 ha portion to her daughter. Land Titles requires the remaining 59 ha portion of Lot 1015 to be assigned a new lot designator and dealt with by the subdivision plan. Lot 1015, Quad 105 D/2 surveyed in 1984 is irregular in shape bounded by 12 rectilinear straight line boundaries which are marked by 12 monuments. The 6 ha portion to be transferred is located at the southwest corner of Lot 1015. Three existing monuments can be used to mark three corners of the new 6 ha lot, and at least one additional monument needs to be placed within Lot 1015 to mark the remaining boundaries of the new 6 ha lot. a) What information and approvals are required to proceed with the survey? b) Describe the minimum amount of field survey required for this subdivision and what survey returns would need to be submitted to the Surveyor General Branch if this minimum field survey approach is used? Name the survey documents that must be submitted. c) What survey returns would need to be submitted to the Surveyor General Branch if you surveyed (retraced) all of the boundaries of Lot 1015? Name the survey documents and any other returns that must be submitted. d) What are the advantages and disadvantages of doing a minimum survey rather than a full field survey of the subdivision of Lot 1015? e) What type of bearings must be shown on the subdivision plan? f) Will the registration of the subdivision plan cause new certificates of titles to be issued to the two new lots or does the owner need to submit some other documents to the Land Titles Office to create the new titles? If so, what are these documents?	2 6 2 3 2 2	

6.	On April 1, 2014, land and resource management responsibilities in the Northwest Territories were devolved to the Government of Northwest Territories. As a result the federal Northwest Territories and Nunavut Mining Regulations was repealed and replaced with new federal and territorial mining regulations. a) Name the new regulations and specify the land that each regulation applies to. b) The new mining regulations make some changes to the repealed regulations including two changes to the staking rules that govern the size (area) of a claim and the intervals that legal posts (corner and boundary posts) must be placed to mark the claim. What changes were made to the areas and intervals? c) A survey of a mineral claim or a perimeter survey of a group of claims granted under the mining regulations requires monuments to be placed at several locations. Describe the locations where monuments must be placed. d) Describe what type of monuments may be used to demarcate a surveyed mineral claim. e) The regulations allow for the staking of a witness legal post to mark a claim corner in situations where it is not possible to place the corner post. If the claim is subsequently surveyed, describe how you would survey and define the claim corner in relation to a witness post.	3 2 4 2 2	
7.	As a Canada lands Surveyor, you have been hired to subdivide Lot 167 located on a First Nation Reserve in British Columbia. Lots 166, 167, 168 and 169, were surveyed by John Doe, BCLS, CLS, in 2009, as shown on Plan 99999 CLSR. Your retracement of Lot 167 found three of the seven monuments marking Lot 167 in good condition, while the other four monuments were not found. In order to re-establish the boundaries of Lot 167, you extended the retracement survey to search for and tie monuments on the nearby adjoining Lots 166, 168 and 169. This further search only found about 40% of the monuments in good condition. Comparisons between your measurements and those shown on John's plan discovered distance discrepancies of 5 to 40 cm over only 50 metres, and bearing comparisons showed similar large discrepancies that far exceeded the accuracy standards. These discrepancies made it very difficult to re-establish the boundaries of Lot 167. Describe what steps you would take to deal with this situation and to help resolve the boundary uncertainty? Do you have any obligations, as a Canada Lands Surveyor, to report sub-standard survey work by a fellow land surveyor to the Association of Canada Lands Surveyors?	10	

8.	The National Standards for the Survey of Canada Lands includes Chapter 7, which deals with Building Unit Surveys, and Chapter 8, which deals with Condominium Surveys. a) Describe where in Canada each type of survey is used, and for what purpose. b) What condominium and land titles legislation governs the preparation of condominium plans made by a Canada Lands Surveyor? c) Describe the type of parcels that typically would be defined by a condominium plan and a building unit plan. d) What are the differences in survey and plan requirement between a building unit survey executed in accordance to Chapter 7 and a condominium survey executed in accordance to Chapter 8.	4 2 3 4	

9.

On May 15, 2005 a staker for Company A staked the AL group of 6 quartz mineral claims in Yukon in a northerly direction along 3 contiguous location lines with 3 claims of the full size left and 3 claims of the full size right of the location lines. The AL group of claims was subsequently recorded and granted by the mining recorder.

On June 17, 2006 a staker for Company B staked the BURN group of 6 quartz mineral claims east of and parallel to AL group along 3 contiguous location lines with full size claims left and right of the location lines. The staker intended to make the BURN group of claims adjoin the AL group of claims by measuring what he thought was 914.4 m (3000 feet) east of No. 1 location posts of AL1 and AL2. The BURN group of claims was subsequently recorded and granted by the mining recorder.

In 2014, a Canada Lands Surveyor was engaged by Company B to survey the BURN group of claims. The CLS found and tied all of the location posts for each group of the claims. The location lines between the legal posts were measured as follows:

Location Lines		
Claims	**Bearing**	**Distance**
AL1 and AL2	0°	600 m
AL3 and AL4	0°	400 m
AL5 and AL6	340°	410 m
BURN1 and BURN2	0°	400 m
BURN3 and BURN4	0°	450 m
BURN5 and BURN6	0°	430 m

The distance and bearing from the No 1 location posts of AL1 and AL2 claims to the No 1 locations posts of BURN1 and BURN2 claims was 90°, 800 m. These location posts were found at the southern end of each string of location lines.

a) Draw a neat sketch at an approximate scale showing the configuration of the surveyed BURN mineral claims in relation to the AL mineral claims, using solid lines to show the surveyed boundaries of the BURN claims and dashed lines to show the boundaries of the AL claims. Show the known dimensions of the claims in cases where no calculations are required. The sketch shall also show with a circle symbol where monuments need to be placed. — 7

b) Company B instructed the surveyor to stake any fractional claims to include any open ground found within the groups of AL and BURN claims. On the sketch drawn for a) or on a separate sketch, show the extent of any fractional claims that the surveyor could stake. Outline the fractional claim(s) using a colour or bold line, and show where the legal (location) posts should be staked to mark the claim(s). — 3

Total Marks: 100