EO M390.04 – DETERMINE DISTANCE ON A MAP AND ON THE GROUND

1. **Performance.** Determine Distance on a Map and on the Ground.

2. **Conditions**

   a. Given:

      (1) Topographical map,

      (2) Compass,

      (3) Calculator,

      (4) Paper,

      (5) Pen/pencil,

      (6) Supervision, and

      (7) Assistance as required.

   b. Denied: N/A.

   c. Environmental: Field setting during the day.

3. **Standard.** The cadet shall determine distance:

   a. on a map by measuring; and

   b. on the ground by pacing.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Explain, demonstrate and have the cadet determine distance on a map, to include: a. measuring point-to-point; and b. measuring along a route between two points.	Demonstration and Performance	30 min	A2-041 (pp. 16–18) C2-041 (p. 50)
TP2	Explain, demonstrate and have the cadet pace by: a. determining a personal pace for 100 m; b. counting paces; and c. calculating distance.	Demonstration and Performance	15 min	C0-111 (p. 530, p. 531) C2-041 (p. 106)
TP3	Describe factors that affect pacing, to include: a. terrain, b. slopes, c. fatigue, d. equipment, e. weather, and f. obstacles.	Interactive Lecture	5 min	C0-111 (p. 530, p. 531)

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TP	Description	Method	Time	Ref
TP4	Demonstrate and have the cadet practice determining distance using the pace-counting method over varied terrain.	Practical Activity	30 min	

5. **Time**

a.	Introduction/Conclusion:	10 min
b.	Demonstration and Performance:	45 min
c.	Interactive Lecture:	5 min
d.	Practical Activity:	30 min
e.	Total:	90 min

6. **Substantiation**

a. Demonstration and performance was chosen for TPs 1 and 2 as it allows the instructor to explain and demonstrate measuring distances on a map and determining personal pace, while providing an opportunity for the cadet to practice these skills under supervision.

b. An interactive lecture was chosen for TP 3 to introduce the factors that can affect the cadets' personal pace.

c. A practical activity was chosen for TP 4 as it is an interactive way for the cadet to experience pacing and the factors that affect it in a safe, controlled environment. This activity contributes to the development of pacing skills and knowledge in a fun and challenging setting.

7. **References**

a. A2-041 B-GL-382-005/PT-001 Canadian Forces. (2006). *Maps, Field Sketching, Compasses and the Global Positioning System*. Ottawa, ON: Department of National Defence.

b. C0-111 (ISBN 978-0-9740820-2-8) Tawrell, P. (2006). *Camping and Wilderness Survival: The Ultimate Outdoors Book* (2nd ed.). Lebanon, NH: Leonard Paul Tawrell.

c. C2-041 (ISBN 0-07-136110-3) Seidman, D., & Cleveland, P. (1995). *The Essential Wilderness Navigator*. Camden, ME: Ragged Mountain Press.

8. **Training Aids**

a. Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area,

b. Topographical maps (one per pair of cadets),

c. Calculator,

d. Paper, and

e. Pen/pencil.

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9. **Learning Aids**

    a. Topographical map (one per pair of cadets),

    b. Calculator,

    c. Paper, and

    d. Pen/pencil.

10. **Test Details.** This EO is assessed IAW Chapter 3, Annex B, Appendix 6, (390 PC).

11. **Remarks.** N/A.

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