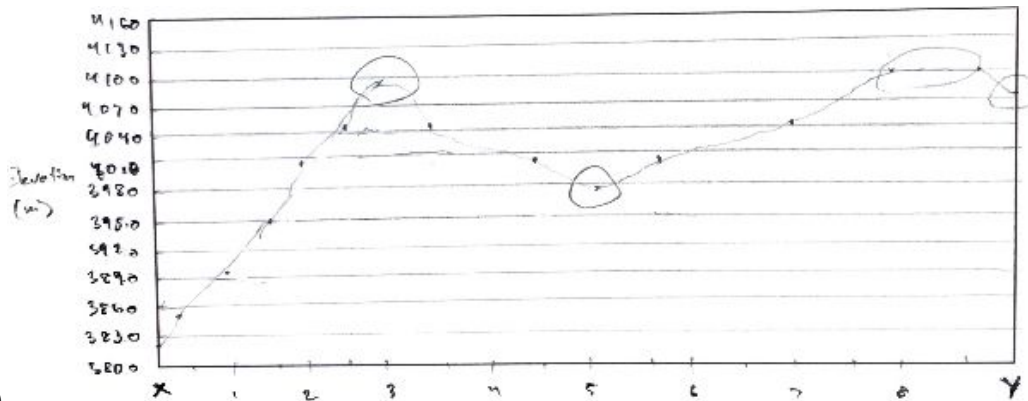


# Geologic Mapping Tryouts 2020 **KEY**

## Section I - 60 total

Q1

- A. 10 m (1)
- B. Northeast (1)
- C. Rule of Vs (2)
- D. Strike: N 54 W **OR** 311, Dip: 8.5 (4; +1 for strike angle value, +1 for strike direction, +2 for dip)
- E. Subducted plates push farther inland (1), creating compressive stress a bit in from the edge of the plate (1)



- F. (9 total)
  - a. +1 x-axis labeled (X and Y marked)
  - b. +1 y-axis labeled (elevation in meters)
  - c. +1 Decent range and space y-axis numbers
  - d. +1 At least 10 points and they are accurate
  - e. +1 Line exists and connects all points
  - f. +4 Significant points (the crest, trough, flat part, drop near end; 1 pt each)
- G. Terrane (1)
- H. Thrust (1; 0.5 if "Reverse")
- I. 11.7% (2; 1 if not written as a percent)
- J. Sedimentary (1), laid down a long time before the mountain building process began (1)
- K. 231 m (2)

Q2

- A. F, P, G, C, B, R, H, A, M, O, E, X, D, K, Z, J, N, S (6; -0.5 for each misplacement, min of 0)
- B. Nicolas Steno (1)
- C. Batholith (1)
- D. Dike (1)
- E. C: nonconformity (1), O: angular unconformity (1)
- F. Reverse fault (1)
- G. Strike-slip fault (1)
- H. Contact metamorphism (2)
- I. Anticline (1)

Q3

- A. 7200 km (3; +1 for answer, +2 for work)
- B. (4.5, 5.5) (2; +1 for each coordinate)
- C. 5.1 (1)

- D. P waves are compression waves, which move fast because Earth's interior is incompressible (1), S waves are shear waves, where the motion is not in the direction of the propagation (1)
- E. Center E is about 142° (1) around the Earth while Center F is 103-142° (in the shadow zone) (1) (do +0.5 if specific angles are not mentioned)
- F. -
  - a. Shear (1)
  - b. Strike-slip (1)
  - c. Right-lateral / dextral (1)
- G. 251 times (3)
- H. {No work needed, it's a trick} 30/90 (2)
- I. Uniformitarianism, Charles Lyell (2)

**Section II - 38 pt total**

Q4 (6 total; +1 each)

- 1. C, B
- 2. B, C
- 3. A, A

Q5 (5 total; +1 each)

- A. Basin
- B. Dome
- C. Antiformal anticline (anticline ok)
- D. Antiformal syncline (exact)
- E. Synformal syncline (syncline ok)

Q6

- A. 315/60 (2; +1 for strike, +1 for dip)
- B. 45/60 (2; +1 for strike, +1 for dip)
- C. 270/20 (2; +1 for strike, +1 for dip)
- D. 135/40 (2; +1 for strike, +1 for dip)
- E. Poles (1)
- F. Great circles (1)
- G. Primitive (1)

Q7 (5 total; +1 each)

- 1. D
- 2. A
- 3. E
- 4. C
- 5. B

Q8 (4 total; +0.5 each)

- 1. D, A
- 2. B, C
- 3. A, D
- 4. C, B

Q9 (3 total; +1 each)

- A. West
- B. Transgression
- C. Regression

Q10

- A. Uplift (1)
- B. Denudation (1)
- C. No, the carbon-14 half life is too short (2; +1 answer, +1 explanation)