

BC Numeracy 10 Exam Practice – Graphing Data

For each situation below:

1. Plot the data on a graph.
2. Draw a reasonable line of best fit. (It does **not** need to touch every point but should pass through at least 2 points.)

Scenario 1

Lemonade Stand vs. Afternoon Temperature

A 12-year-old student runs a lemonade stand in their neighbourhood every sunny afternoon in July, always from 1–5 p.m. The hotter the day, the more people stop for a drink — but weekends are busier, soccer practices sometimes distract customers, and one day a neighbour bought 12 cups at once. The student wants to know whether **temperature is a good predictor of sales** or whether the unpredictability of the neighbourhood matters more.

Temp (°C)	Sales (\$)
18	142
20	189
21	203
23	251
24	298
25	311
26	337
27	355
28	373
29	398
30	426
31	451
32	472
33	505

Scenario 2

Cold Weather vs. Cups of Hot Chocolate Sold

A ski lodge café tracks how many cups of hot chocolate are sold depending on the morning temperature. Colder days bring more skiers inside to warm up, but sales also depend on whether school groups arrive, how loud the wind is on the chairlift, and weekend crowds. The café owner wants to predict how many hot chocolates to prepare **based on outdoor temperature**.

Temp (°C)	Cups Sold
–6	312
–5	294
–4	273
–3	258
–2	242
–1	210
0	201
1	185
2	161
3	147
4	134
5	118
6	104
7	93

Scenario 1 — Lemonade Stand (Temp → Sales)

- a) If the temperature reaches **27°C**, estimate the lemonade sales using your line of best fit.
- b) If sales one day reached **\$420**, use your line of best fit to estimate the temperature that day.

Scenario 2 — Hot Chocolate at Ski Lodge (Temp → Cups Sold)

- a) If the temperature is **–3°C**, estimate how many cups of hot chocolate will be sold.
- b) If the café sold **200 cups**, estimate the temperature that morning.

For each situation below:

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Scenario 3

Hours of Practice vs. Goals Scored

A student who plays weekend house-league soccer decides to keep track of how much weekly practice they do and how many goals they score in weekend games. They want to know whether **practicing more actually helps**, or whether game results are mostly luck, weather, or the strength of the other team.

Practice (hrs)	Goals
2	0
3	1
4	1
5	2
6	3
7	3
8	4
9	5
10	5
11	6
12	6
13	7
14	7
15	8

Scenario 4

Daily Protein Intake vs. Weightlifting Strength

A student tries to build muscle for a weightlifting unit in PE class. They gradually increase how much protein they eat each day and track how much weight they can bench press each Sunday. Sleep, stress, and motivation affect the results too — so the student wants to know whether **protein intake is strongly connected to strength gains**.

Protein (g/day)	Bench Press (lb)
65	115
70	118
75	125
80	129
85	136
90	145
95	152
100	160
105	166
110	173
115	181
120	187
125	195
130	202

Scenario 3 — Soccer Practice (Hours Practiced → Goals Scored)

- a) If the athlete practices **8 hours** in a week, use your line to predict how many goals they will score that weekend.
- b) If they scored **6 goals** in a weekend, estimate how many hours they practiced that week.

Scenario 4 — Protein Intake (Protein → Bench Press)

- a) If the student eats **110 g of protein** per day, estimate how much weight they can bench press.
- b) If the student benches **180 lb**, estimate how much protein they likely ate per day that week.