

MATH 1006 Supplemental HW
Due by Friday, February 7th

Problem A

1. According to biological research, the rate of oxygen consumption by Colorado beetles is related to the temperature. The following table shows some of the related values:

Temperature (°C)	10	15	20	25	30
Rate of O₂ consumption (mm³/min)	90	125	200	300	375

- a) Is the rate of oxygen consumption a function of temperature?
b) Is temperature a function of the rate of oxygen consumption?
2. The following table gives P, the percent humidity, as a function of t, the number of hours after midnight.

t, hours after 12 A.M.	0	5	7	12	15	20	24
P, percent humidity	56	78	50	20	22	50	44

- a) Is P a function of t?
b) Is t a function of P?
3. A store sells blankets each of which is large enough to cover up to three children. Of course 1, 2, or 3 children may actually lie under any given blanket.
- a) Is the number of blankets a function of the number of children?
b) Is the number of children a function of the number of blankets?

Problem B

Let P(t) represent the population (in thousands) of a city t years after 1950. Interpret the practical meaning of each of the following statements.

- a) $P(27) = 38$ b) $2.28 = P(2)$ c) $P(41) = P(43)$ d) $P(-44) = 0.89$

Problem C

1. Is it possible to sketch the graph of a function containing NO vertical intercept? If so, sketch one. If not, explain why not.
2. Is it possible to sketch the graph of a function containing TWO vertical intercepts? If so, sketch one. If not, explain why not.