

Lesson 2.5 Notes

- 1) Jerry is half-way up a mountain at an altitude of 2,000 feet. He climbs at a rate of 5 miles per hour. If we assume that time zero is where he is right now, write a function A that represents the altitude of Jerry after h hours.

$$A(h) = 5h + 2000 \quad \text{**Notice that I am using the variables requested.}$$

- 2) Find $A(3)$. Explain what your solution means.

$$A(3) = 5(3) + 2000 = 15 + 2000 = 2015$$

$$A(3) = 2015$$

This means that Jerry is at a height of 2,015 feet after 3 hours of climbing from the half-way point.

- 3) Does finding $A(-3)$ make sense in this situation? Why or why not?

In this situation, finding $A(-3)$ does make sense because Jerry was climbing the mountain prior to time zero, so we would just be finding his altitude 3 hours prior to being at the half-way point.

- 4) Steven invests \$5,000 into an account that earns 4.5% interest per year. Write a function T that represents the amount in the account after y years.

$$T(y) = 1.045^y \cdot 5000 \quad \text{**Notice that I am using the variables requested.}$$

- 5) Find $T(7)$. Explain what your solution means.

$$T(7) = 1.045^7 \cdot 5000 \approx 6804.31$$

$$T(7) = 6804.31$$

This means that Steven will have \$6,804.31 in the account after 7 years.

- 6) Does finding $T(-1)$ make sense in this situation? Why or why not?

In this situation, finding $T(-1)$ does not make sense because there was no money in the account prior to when Steven opened the account.