# Practice Exercises - Rational Expressions

## Health

|  |  |
| --- | --- |
|  |  |
| 1 |  |
| 2 |  |
| 4 |  |
| 8 |  |
| 10 |  |

A pharmaceutical company claims that the concentration of a drug in a patient’s bloodstream will be at least 10% for 8 hours. Clinical tests show that the concentration, *C*, of the drug (as percent) *t* hours after injection is .

1. During what time period is the concentration at least 10%?
2. Is the company’s claim supported by the data? [[1]](#footnote-1)

## Public Health

The rational expression describes the cost, in millions of dollars, to inoculate percent of the population against a particular strain of flu.

1. Evaluate the expression for , and . Describe the meaning of each evaluation in terms of percentage inoculated and cost.
2. What happens to the cost as approaches 100%? How can this observation be interpreted? [[2]](#footnote-2)

## Species Extinction

To restore the population of tule elk at Point Reyes, California, 50 elk are introduced into a wildlife preserve. The tule elk population () after years is described by the model .

|  |  |
| --- | --- |
| *t* |  |
| 1 |  |
| 3 |  |
| 5 |  |
| 10 |  |
| 25 |  |

1. Complete the table to estimate when the population will reach 125?
2. Is there a limit on the size of the population? Explain. [[3]](#footnote-3)

1. Harshbarger, Ronald J. and Lisa S. Yocco. College Algebra in Context, 4th Edition. Pearson. 2013. Pg 491. [↑](#footnote-ref-1)
2. Robert Blitzer. Introductory and Intermediate Algebra for College Students. Pearson Education,Inc. 2017. (pg 498) [↑](#footnote-ref-2)
3. Robert Blitzer. Introductory Algebra for College Students. Prentice – Hall, Inc. 1998 [↑](#footnote-ref-3)