

Cat Age

James Metz



MATH TOPICS ADDRESSED:

- Writing Formulas
- Graphing
- Linear Relationships

Animals age at different rates than humans. A 1-year-old cat is not at the same level of maturity as a 1-year-old human. If a cat owner wishes to know the age of his or her pet, a veterinarian can supply that information by looking at charts. For example, a vet has collected information in **table 1** for cats from 3 to 17 years old. Information for a *junior* cat (age 7 months to 2 years) is given in **table 2**. Help the veterinarian find a formula or rule so that he or she can accurately determine the equivalent age of a cat in human years.

1. Create a coordinate grid, and plot the data given in **table 1**. Place the age of the cat on the horizontal axis and the human equivalent age on the vertical axis. Connect the points.
2. Find a formula that describes the relationship between the age of a cat (x) and a human (y).
3. Use your formula, rule, or graph to determine the following:

Edited by **Kevin Dykema**, kdykema@mattawanschools.org, a teacher from Mattawan, Michigan, and **Crystal Kalinec-Craig**, crystal.kalinec-craig@utsa.edu, a mathematics educator in San Antonio, Texas. Manuscripts should show how math is used to solve a real-life problem, preferably in the context of one's profession, and should be no more than 300 words. Submit manuscripts through <http://mtms.msubmit.net>.

Table 1 This listing compares ages of older cats with humans.

Age of Older Cat (in Years)	Human Equivalent (in Years)
3	28
7	44
11	60
15	76
17	84

Source: AAHA 2015

- a. What is the human equivalent age for a 5-year-old cat?
 - b. How old is a cat if it is equivalent to a 50-year-old human?
4. Some people think that multiplying the age of the cat by 7 will give the human equivalent age. Is this true?
 - a. Write a formula that represents the following statement: "Multiply a cat's age by 7 to determine the human equivalent age."
 - b. Graph the formula on the coordinate grid from question 1.
 - c. For what age cat is this "multiply the cat's age by 7" rule true?
 5. **Table 2** shows the information the veterinarian has for a junior cat.

Table 2 This listing compares ages of junior cats with humans.

Age of Junior Cat (in Years)	Human Equivalent (in Years)
7/12	12
1	15
1 1/2	21
2	24

Source: AAHA 2015

- a. As a cat ages from 1 year to 2 years, what is the equivalent number of human years that the cat ages?
- b. Find a formula or rule that approximately describes the relationship between the age of a junior cat (x) and the human equivalent age (y).
- c. Compare the formula for junior cats to your formula for older cats in **table 1**. What do you notice?

James Metz, metz@hawaii.edu, is a retired math instructor who likes to stay current with mathematics education.

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