6. [11 points] A video is posted online and later goes viral after it is shared by a certain celebrity on a social media platform. 2 hours after it is shared, it has 5 thousand views, and 6 hours after it is shared, it has 10 thousand views.

a. [2 points] Suppose that the number of views increases at a constant rate of views per hour. Find a formula for \( f(t) \), the number of views, in thousands, that the video has \( t \) hours after it is shared.

**Answer:** \( f(t) = \) ____________________________

b. [4 points] Suppose instead that the number of views increases at a constant percent growth rate, find a formula for \( g(t) \), the number of views, in thousands, that the video has \( t \) hours after it is shared.

**Answer:** \( g(t) = \) ____________________________

c. [2 points] Suppose that the number of views increases at a constant percent growth rate and \( M \) is a number greater than 4. Which of the following numbers is greater?

- Let \( A \) be the time, in hours, it takes for the number of views to increase from 4 thousand to 12 thousand.
- Let \( B \) be the time, in hours, it takes for the number of views to increase from \( M \) thousand to \( 3M \) thousand.

**Answer (Circle one):**

- \( A \) is greater
- \( B \) is greater
- They are equal
- Cannot be determined

d. [3 points] Another video has gone viral, and the number of views for that video increases by 40% in 2 hours. Find the continuous hourly percent growth rate of the number of views of this video. Give your answer in exact form or correct to at least two decimal places.

**Answer:** Continuous hourly percent growth rate: ____________________________%