

Name: \_\_\_\_\_

Date: \_\_\_\_\_

<b>Learning Goal 2.1</b>	Finite limits and continuity.
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**More Questions**

1. Suppose that the amount of air in a balloon after  $t$  hours is given by

$$V(t) = t^3 - 6t^2 + 35.$$

Estimate the instantaneous rate of change of the volume after 5 hours numerically. Confirm algebraically.

2. Consider numerically, then graphically (using technology) what happens to the  $y$  - value as the  $x$  - value gets close to zero of

$$y = \frac{\sin x}{x}$$

3. Consider numerically, then graphically (using technology) what happens to the  $y$  - value as the  $x$  - value gets close to zero of

$$y = \frac{\tan(3x)}{\tan(5x)}$$