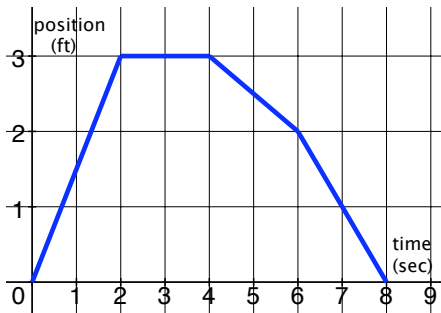


Math 151 Quiz #3
October 13, 2009

Name: _____

Simplify your answers. Show all work on a separate paper. Staple this sheet to your answers.

- (3 pts.) Write **equations** for all of the horizontal and vertical asymptotes of $f(x) = \frac{3x^2 - 12}{x^2 + x - 2}$.
- (2 pts.) Evaluate the following limit. **Justify** your answer. $\lim_{t \rightarrow \infty} \frac{t^6 + 2t + 1}{1 - 2t^5}$
- (3 pts.) Find the slope of the tangent line of $g(x) = x^2 - 5x + 2$ at $x = 1$ using the limit definition (see below).
- (2 pts.) The position function of a bird moving along a straight path is given below in feet at t seconds.



What is the velocity of the bird at 5 seconds?
 (Include units.)

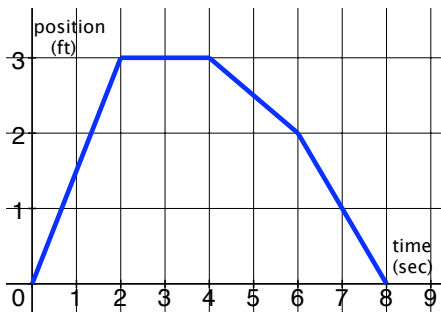
Notes: Slope of tangent of f at $a = f'(a) = \lim_{x \rightarrow a} \frac{f(x) - f(a)}{x - a}$ or $\lim_{h \rightarrow 0} \frac{f(a+h) - f(a)}{h}$

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