Quiz 18 Key — MA161 — November 7, 2018
Alden Bradford

Min	Mean	Max
2	14	20

For this quiz, $f(x) = 9x + \dfrac{4}{x}$.

1. (4 points) Give the x-coordinates of all critical points of $f(x)$.

$$x = \pm\frac{2}{3}$$

2. (6 points) Find the intervals on which $f(x)$ is increasing.

$\left(-\infty, -\frac{2}{3}\right)$ and $\left(\frac{2}{3}, \infty\right)$

3. (6 points) $f(x)$ has a vertical asymptote at $x = 0$. Find:

$$\lim_{x \to 0^+} f(x) \quad \text{and} \quad \lim_{x \to 0^-} f(x).$$

$\lim\limits_{x \to 0^+} f(x) = \infty$ and $\lim\limits_{x \to 0^-} f(x) = -\infty.$

4. (4 points) Give a sketch of $f(x)$. Make sure your sketch has:

   (a) a scale marked on the x and y axes.

   (b) all critical points labeled with their x-coordinates.