

## Answer on Question #76191 – Math – Discrete Mathematics

### Question

Find domain and range of (answers should be subsets of  $\mathbb{R}$ ):

$$f(x) = \frac{3}{2x - 1}$$

### Solution

$$f(x) = \frac{3}{2x - 1}$$

$$2x - 1 \neq 0 \Rightarrow x \neq \frac{1}{2}.$$

$$\text{Domain: } \left\{x \in \mathbb{R} \mid x \neq \frac{1}{2}\right\}.$$

$$\frac{3}{2x-1} \neq 0.$$

$$\text{Range: } \{y \in \mathbb{R} \mid y \neq 0\}.$$

$$\text{Answer: } D(f) = \left\{x \in \mathbb{R} \mid x \neq \frac{1}{2}\right\} = \left(-\infty, \frac{1}{2}\right) \cup \left(\frac{1}{2}, +\infty\right),$$

$$R(f) = \{y \in \mathbb{R} \mid y \neq 0\} = (-\infty, 0) \cup (0, +\infty).$$