

### Precalculus Section 1.3 Exercises

1. Determine whether or not the relation represents  $y$  as a function of  $x$ . Find the domain and range of those relations which are functions.
  - (a)  $(25, 37), (-8, 121), (25, 3), (0.11, -51), (9.9, 23), (-8, 1.5)$
  - (b)  $(-25, 37), (8, 121), (2.5, -3), (11, 51), (22, 23), (-8, 15)$
  - (c)  $\{(x, 3x^2) \mid x \text{ is a real number}\}$
2. Determine whether or not the equation represents  $y$  as a function of  $x$ .
  - (a)  $xy = 1 - y^2 + x$
  - (b)  $x^2 + 2xy - y = 12$
  - (c)  $y = \frac{\sqrt{x^2 - 1}}{x^2 - 4}$
3. Explain why the relation between your classmates and their email addresses may not be a function. What about the relation between your classmates and their phone numbers? Between your classmates and their social security numbers?