Answers to Practice Test 2

1. a. [2, ∞[

b. [2, 8]

c. x = 3

- **2. a.** Relation because it does not pass vertical test.
 - **b.** Function because it passes the vertical test.
 - **c.** Relation because domain is not equal to source set
 - **d.** Relation because first element in order pairs is repeating.

| 3. | <i>x</i> ∈[0, 4[|]8, ∞[| $x \in]-\infty, \infty[$ |
|----|--------------------|-----------------------|---------------------------|
| | $0 \le x < 4$ | $8 < x < +\infty$ | $-\infty < x < \infty$ |
| | 2 -4 -2 -2 4 >x | 2 -5 - 5 - 10 - 15 | 2 -4 -2 2 4 X |

| 4. | Property | T or F |
|----|-------------------------------------|--------|
| | Increasing on : $x \in [1, 3]$ | F |
| | Domain: $x \in R$ | Т |
| | Range: <i>y</i> ∈] −∞, 2] | Т |
| | Decreasing on: $y \in [2, +\infty[$ | Т |

- **5. a.** Yes this is a function because it passes vertical line test.
 - **b.** Two times
 - **c.** f(t) = 300t 800
 - **d.** 3100

6. a. 6 **b.** −2

c. 10

a. Positive: $x \in]-\infty, -1] \cup [2, \infty[$ Negative: $x \in [-1, 2]$

> **b.** Positive: $x \in [-5, 3]$ Negative: $x \in]-\infty, -5] \cup [3, \infty[$

c. Positive: $x \in]-\infty, 2]$ Negative: $x \in [2, \infty[$

10.

| Domain | [−5, ∞[|
|--------------|----------------------|
| Range | [−4, +∞[|
| Increasing | [-5, -4] ∪ [1, +∞[|
| Decreasing | [-4, 1] |
| Positive | [-5, -3] ∪ [3, +∞[|
| Negative | [-3, +3] |
| Absolute Max | none |
| Absolute Min | -4 |
| Relative Max | 3 |
| Relative Min | none |
| Y intercept | -2 |
| Zero(s) | <i>x</i> = −5, −3, 3 |
| | |