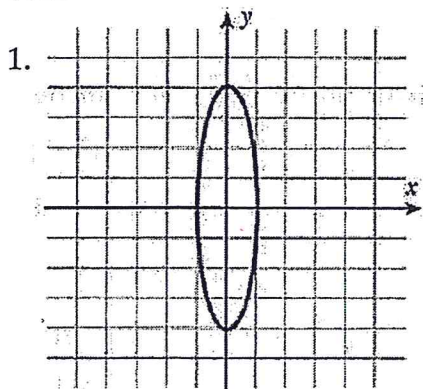


Advanced Algebra and Trigonometry
Q1 Checkpoint Quiz 2

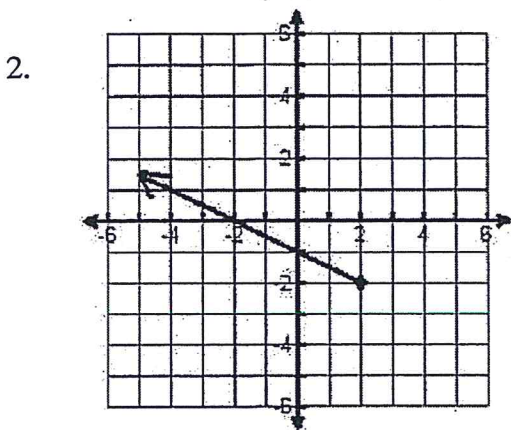
KEY ¹² P13

For exercises 1-3 state the domain and the range of the relation using either set notation or interval notation.



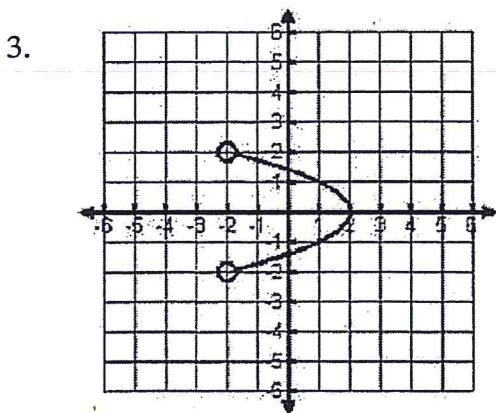
$$D: \{x | x \in \mathbb{R} \wedge -1 \leq x \leq 1\} \text{ or } [-1, 1] \quad (1)$$

$$R: \{y | y \in \mathbb{R} \wedge -4 \leq y \leq 4\} \text{ or } [-4, 4] \quad (1)$$



$$D: \{x | x \in \mathbb{R} \wedge x \leq 2\} \text{ or } (-\infty, 2] \quad (1)$$

$$R: \{y | y \in \mathbb{R} \wedge y \geq -2\} \text{ or } [-2, \infty) \quad (1)$$



$$D: \{x | x \in \mathbb{R} \wedge -2 < x \leq 2\} \text{ or } (-2, 2] \quad (1)$$

$$R: \{y | y \in \mathbb{R} \wedge -2 < y < 2\} \text{ or } (-2, 2) \quad (1)$$

4. Is the graph from #1 a function? NO

5. Is the graph from #2 a function? YES

6. Is the graph from #3 a function? NO

For questions 7-9 use $f(x) = 2x - 3$ and $g(t) = 5 + t$ to evaluate the following:

7. $f(g(7))$

$$g(7) = 5 + 7 = 12$$

$$f(12) = 2(12) - 3 = 21$$

8. $\frac{f(-2)}{g(1)}$

$$f(-2) = 2(-2) - 3 = -7$$

$$g(1) = 5 + 1 = 6$$

$$\boxed{\frac{-7}{6}}$$

9. $f(x+1) - g(x-1)$

$$2(x+1) - 3 - 5 - (x-1)$$

$$2x + 2 - 3 - 5 - x + 1$$

$$2x + 2 - 3 - 4 - x$$

$$\boxed{x - 5}$$