INTERVAL NOTATION WORKSHEET **NAME:** Key

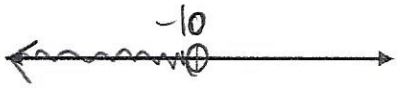
Put in interval notation and draw a graph of each inequality.

1. $x \geq 4$  1. $[4, \infty)$

2. $x < 6$  2. $(-\infty, 6)$

3. $x \leq -2$  3. $(-\infty, -2]$

4. $x > 8$  4. $(8, \infty)$

5. $x < -10$  5. $(-\infty, -10)$

Write each interval as an inequality .

6. $(-\infty, -8]$ 6. $X \leq -8$

7. $[5, \infty)$ 7. $X \geq 5$

8. $(-2, \infty)$ 8. $X > -2$

9. $[-10, \infty)$ 9. $X \geq -10$

10. $(-\infty, 6)$ 10. $X < 6$

11) **Write interval notation that describes the graph.** 11) $(-4, 1]$

In each part, express the set in interval notation (a, b)

1.

(1,5)

2.

[2,7]

3.

(-3,-1]

4.

(-3,4]

5.

[5,∞)

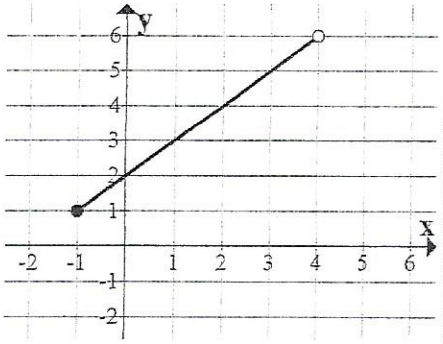
6.

(-∞,0)

Domain & Range

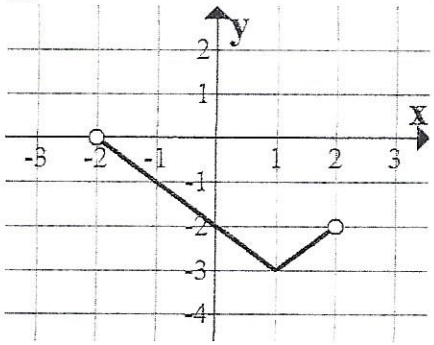
1-6) Find the **domain and range** of each graph using interval notation.
7-9) **Draw** a function that satisfies the give domain and range.

1.



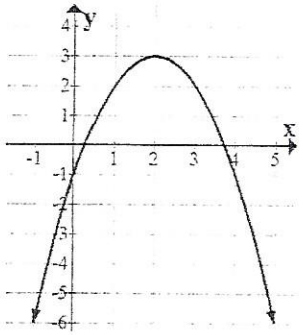
Domain: [-1,4)
Range: [1,6)

2.



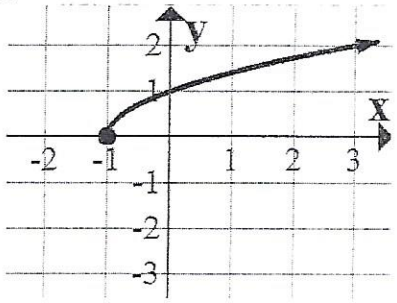
Domain: (-2,2)
Range: [-3,0)

3.



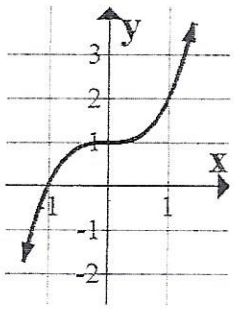
Domain: $(-\infty,\infty)$
Range: $(-\infty,3]$

4.



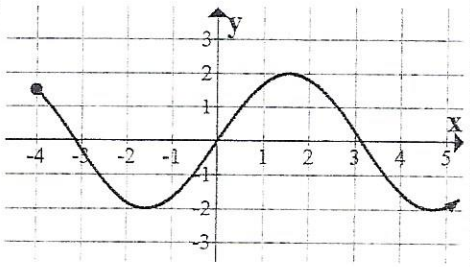
Domain: [-1,∞)
Range: [0,∞)

5.



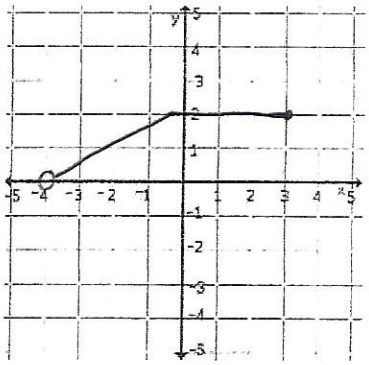
Domain: $(-\infty,\infty)$
Range: $(-\infty,\infty)$

6.



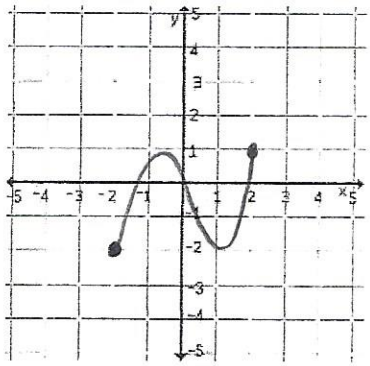
Domain: [-4,∞)
Range: [-2,2]

7.



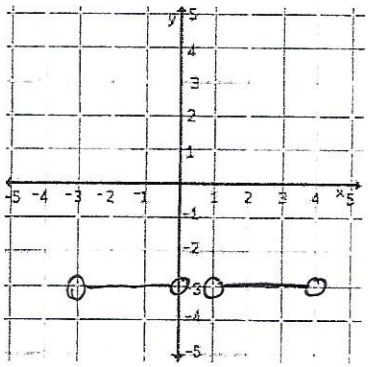
Domain: (-4, 3]
Range: [0, 2]

8.



Domain: [-2, 2]
Range: [-2, 2]

9.



Domain: (-3, 0)∪ (1, 4)
Range: [-3]

Answers: 1) [4, ∞) 2) (-∞, 6) 3) (-∞, −2] 4) $x \leq -8$ 5) $x \geq 5$ 6) $x > -2$ 7) $x \geq -10$ 8) $x < 6$ 9) (1,5) 10) [2,7] 11) (-3,-1) BACK SIDE - 1) Domain: [-1,4) Range: [1,6) 2) Domain: (-2,2) Range: [-3,0) 3) Domain: (-∞, ∞) Range: (-∞, 3] 4) Domain: [-1,∞) Range: [0,∞) 5) Domain: (−∞,∞) Range: (−∞,∞) 6) Domain: [-4,∞) Range:[-2,2] 7-9) Answers may vary.