Honors Algebra II
Unit 5B – Radical Relationships

Name AK
WS – Step Functions

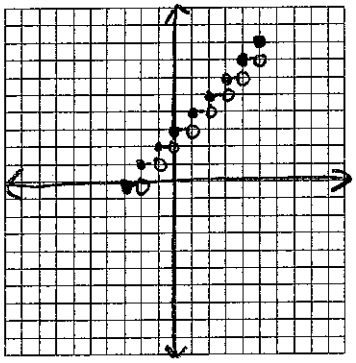
Part 1: Evaluate the following:

(1) $[[7.1]] =$ 7 (2) $[[1.8]] =$ 1 (3) $[[\pi]] =$ 3

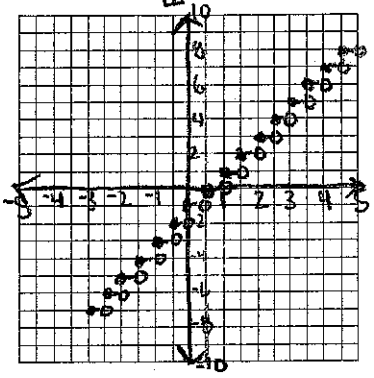
(4) $[[-6.8]] =$ -7 (5) $[[-2.1]] =$ -3 (6) $[[0]] =$ 0

Part 2: Graph each of the following on the interval $-3 \le x \le 5$.

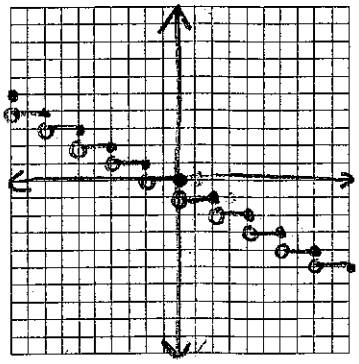
7. $f(x) = [[x+3]]$ start: $(-3, 0)$



8. $f(x) = [[2x-1]] = [[2(x-\frac{1}{2})]]$ start: $(\frac{1}{2}, 0)$ length: $\frac{1}{2}$



9. $f(x) = \left[\left[-\frac{1}{2}x\right]\right]$ start: $(0, 0)$ length: 2



Part 3: Solve the following equations.

10. $[[x+4]] + 5 = 4$

$[[x+4]] = -1$

$-1 \le x+4 < 0$

$-5 \le x < -4$

$[-5, -4)$

11. $\left[\left[\frac{1}{2}x - 1\right]\right] 4 = 0$

$[[\frac{1}{2}x - 1]] = 0$

$0 \le \frac{1}{2}x - 1 < 1$

$1 \le \frac{1}{2}x < 2$

$2 \le x < 4$

$[2, 4)$

12. $[[-4x-9]] = -5$

$-5 \le -4x-9 < -4$

$4 \le -4x < 5$

$-1 \ge x > -\frac{5}{4}$

$(-\frac{5}{4}, -1]$

13. $-[[x-5]] = 15$

$[[x-5]] = -15$

$-15 \le x-5 < -14$

$-10 \le x < -9$

$[-10, -9)$

14. $\frac{1}{3}[[x+4]] = 8$

$[[x+4]] = 24$

$24 \le x+4 < 25$

$20 \le x < 21$

$[20, 21)$

15. $-2[[x-5]] + 4 = 18$

$-2[[x-5]] = 14$

$[[x-5]] = -7$

$-7 \le x-5 < -6$

$-2 \le x < -1$

$[-2, -1)$