

- (1) (a) Let x be the amount you are planning to spend. Then

$$6000 \leq x \leq 10000.$$

- (b) Let x be the number of trees. Then the cost is

$$30(60) + 84x = 1800 + 84x.$$

Since you have a budget of \$2500, the inequality is

$$1800 + 84x \leq 2500.$$

We solve

$$1800 + 84x \leq 2500$$

$$84x \leq 700$$

$$x \leq \frac{25}{3} \approx 8.33$$

- (c) Five trees would be a solution since

$$5 \leq \frac{25}{3}.$$

- (2) (a) $A = (-20, 20)$ $B = (-20, -4)$ $C = (-10, -14)$ $D = (12, 12)$ $E = (8, -8)$
 $F = (18, -12)$

- (b) Plug $(-4, -10)$ into the equation for the water line to check if it is a solution.

$$-10 = -\frac{2}{3}(-4) - 12 = -\frac{28}{3},$$

which is False. Therefore $(-4, -10)$ is not on the water line, so you CAN place the flamingo there.

- (c) The slope is $-\frac{2}{3}$ and the y -intercept is -12 . We know this since the equation is in slope-intercept form, so we can read off the slope (coefficient of x) and the y -intercept (constant term).

- (d)

x	y	(x, y)
-6	-1	$(-6, -1)$
-2	-3	$(-2, -3)$
0	-4	$(0, -4)$
2	-5	$(2, -5)$
8	-8	$(8, -8)$

- (e) Only plant E will be in the way of the sprinkler.