Name_____

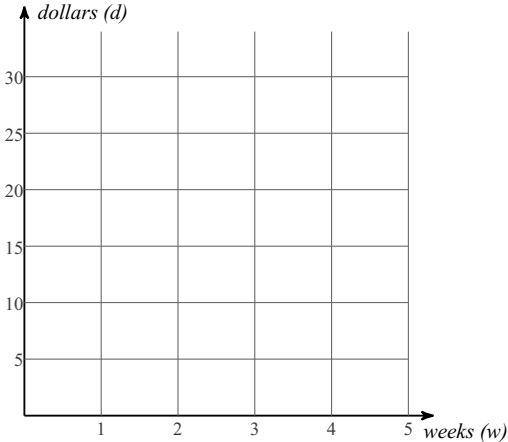# Equations for Other Relationships

Solve each problem.

1) Jessica starts with 33 dollars at week 0. She donates 3 dollars a week to a charity. The equation to determine how many dollars (d) she will have after a number of weeks (w) is $d = 33 - 3w$. Use the equation to complete the table. Then, plot the points on the graph.

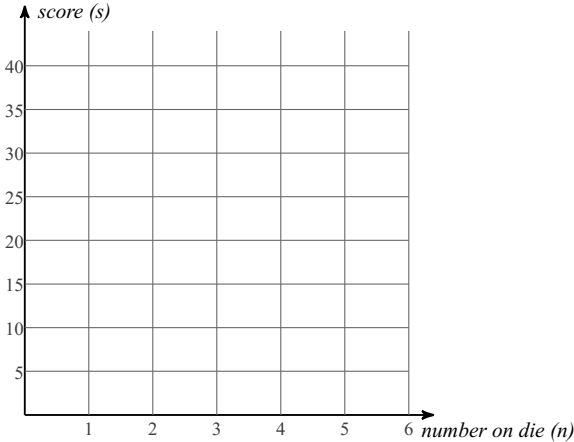| weeks (w)	dollars (d)
0	
1	
2	
3	
4	
5	

2) You are planning a party at an arcade and have a total of 48 game tokens for your guests. You are not yet sure how many guests will come. You want to ensure that all guests get the same number of tokens. The equation to determine how many tokens (t) each guest will get based on how many guests (g) come is $t = \dfrac{48}{g}$. Use the equation to complete the table. Then, plot the points on the graph.

| number of guests (g)	tokens per guest (t)
1	
2	
6	
8	
24	
48	
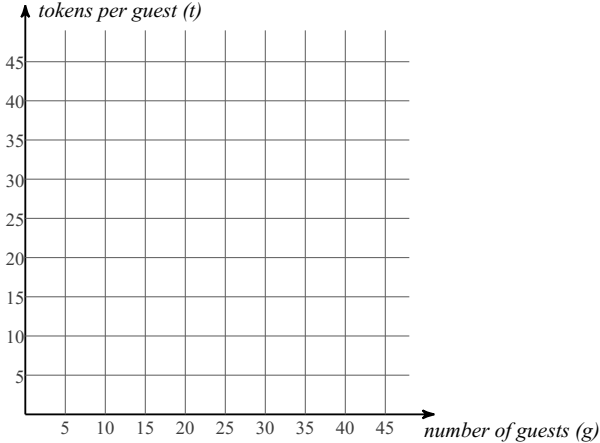
3) To play a dice game, you roll one die. To determine your score, square the number on the die and then add 7. The equation to calculate the score (s) from the number on the die (n) is $s = n^2 + 7$. Use the equation to complete the table. Then, plot the points on the graph.

number on die (n)	score (s)
1	
2	
3	
4	
5	
6	

4) A super ball is dropped from 128 inches high. After each bounce, the ball reaches half of its previous height. The equation to determine the bounce height (h) after a number of bounces (b) is $h = 128 \cdot \left(\frac{1}{2}\right)^b$. Use the equation to complete the table. Then, plot the points on the graph.

bounce number (b)	height (h)
1	
2	
3	
4	
5	
6	
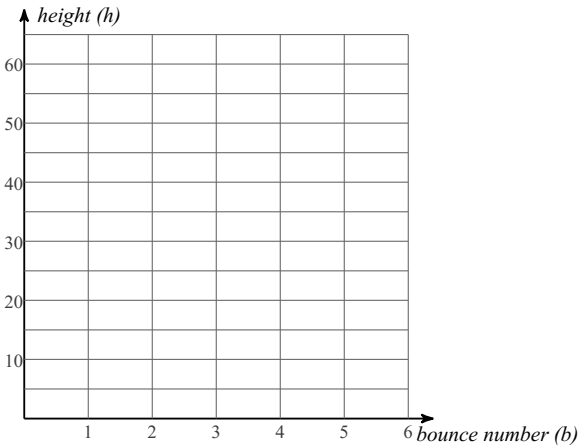
Name_____

# Equations for Other Relationships

Solve each problem.

1) Jessica starts with 33 dollars at week 0. She donates 3 dollars a week to a charity. The equation to determine how many dollars (d) she will have after a number of weeks (w) is $d = 33 - 3w$. Use the equation to complete the table. Then, plot the points on the graph.

| weeks (w)	dollars (d)
0	33
1	30
2	27
3	24
4	21
5	18
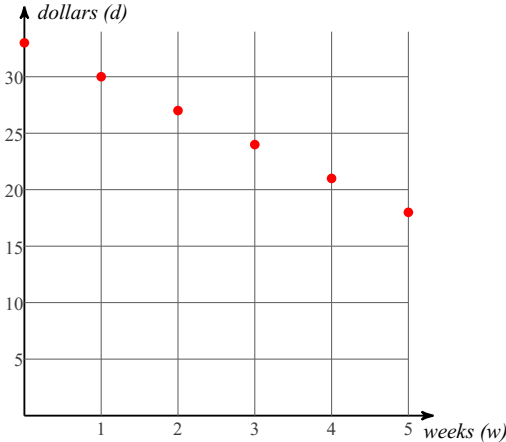
2) You are planning a party at an arcade and have a total of 48 game tokens for your guests. You are not yet sure how many guests will come. You want to ensure that all guests get the same number of tokens. The equation to determine how many tokens (t) each guest will get based on how many guests (g) come is $t = \dfrac{48}{g}$. Use the equation to complete the table. Then, plot the points on the graph.

number of guests (g)	tokens per guest (t)
1	48
2	24
6	8
8	6
24	2
48	1
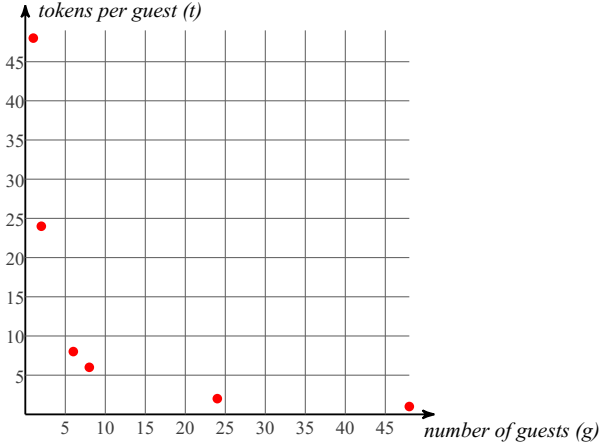
3) To play a dice game, you roll one die. To determine your score, square the number on the die and then add 7. The equation to calculate the score (s) from the number on the die (n) is $s = n^2 + 7$. Use the equation to complete the table. Then, plot the points on the graph.

number on die (n)	score (s)
1	8
2	11
3	16
4	23
5	32
6	43
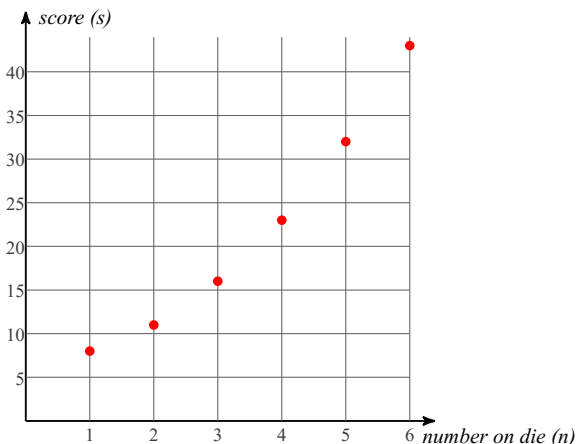
4) A super ball is dropped from 128 inches high. After each bounce, the ball reaches half of its previous height. The equation to determine the bounce height (h) after a number of bounces (b) is $h = 128 \cdot \left(\dfrac{1}{2}\right)^b$. Use the equation to complete the table. Then, plot the points on the graph.

bounce number (b)	height (h)
1	64
2	32
3	16
4	8
5	4
6	2