Constant Rate of Change - Homework Practice Name:_____

Determine whether the relationship between the two quantities described in each table is linear. If so, find the constant rate of change. If not, explain your reasoning.

1.

Greeting Cards	
Number of Cards	Total Cost($)
1	1.50
2	3.00
3	4.50
4	6.00

1 (1) 1.50
1 (2) 1.50
1 (3) 1.50
1 (4)

Constant rate of change
$1.50 per card.

2.

Party Table Rental	
Number of Tables	Cost($)
1	10
2	18
3	24
4	28

1 (1) 8
1 (2) 6
1 (3) 4
1 (4)

Not a constant rate of change. Cost is not consistently going up as the number of tables.

3.

Donuts	
Dozens Bought	Cost ($)
2	3.25
4	6.50
6	9.75
8	13.00

2 (2) 3.25
2 (4) 3.25
2 (6) 3.25
2 (8)

$\frac{3.25}{2} = 1.625$

About $1.63 per dozen donuts

4.

Running	
Time (min)	Distance(mi)
15	2
30	4
45	5
60	6

15 (15) 2
15 (30) 1
15 (45) 1
15 (60)

Not a constant rate of change
2 miles in 15 minutes then 1 mile in 15 minutes.

5. Match the table with its rate of change.

2.4 ft/min

10 ft/min

−0.8 ft/min

0.25 ft/min

Time (min)	20	30	40
Altitude (ft)	170	162	154

10 10
-8 -8
$-8/10 = -.8$

Time (min)	1	2	3
Distance (ft)	20	30	40

1 1
10 10
$10/1 = 10$

Time (min)	4	6	8
Height (ft)	1	1.5	2

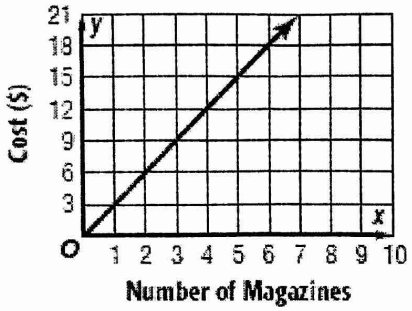
2 2
.5 .5
$.5/2 = .25$

Time (min)	5	10	15
Depth (ft)	12	24	36

5 5
12 12
$12/5 = 2.4$

For Exercises 6 and 7, refer to the graphs below.

6.



Find 5 distinct points on the graph and list them in the table below.

Number of Magazines	Cost ($)
0	0
1	3
2	6
3	9
4	12

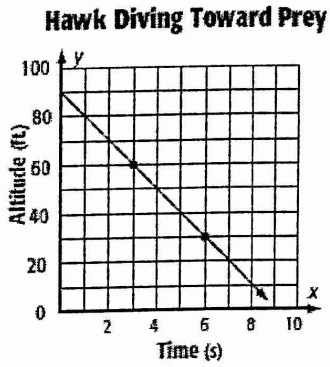
Find the constant rate of change.

$3 per magazine

Interpret the meaning of the constant rate of change.

Every magazine cost $3.00

7.



Find 5 distinct points on the graph and list them in the table below.

Time	Altitude
0	90
1	80
2	70
3	60
4	50

Find the constant rate of change.

-10/1

Interpret the meaning of the constant rate of change.

Hawk is descending 10 feet per second.