Corrective Assignment

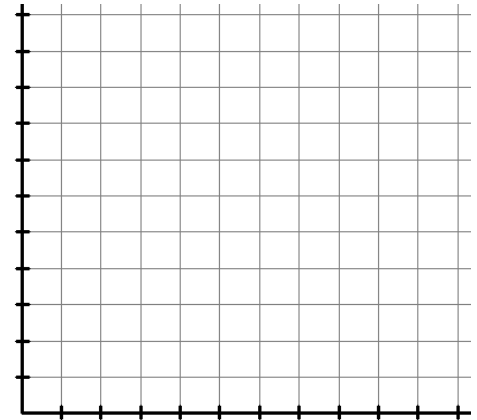**NAME:**_____

DATE:_____

Identify the independent and dependent variable. Create and label a scatter plot. Answer the question.

1. The volume of a cube is determined by the length of a side of that cube as shown in the table below.

Side (cm)	Volume (cm^3)
0	0
2	8
4	64
6	216
7	343
8	512

Independent Variable

____ = _____
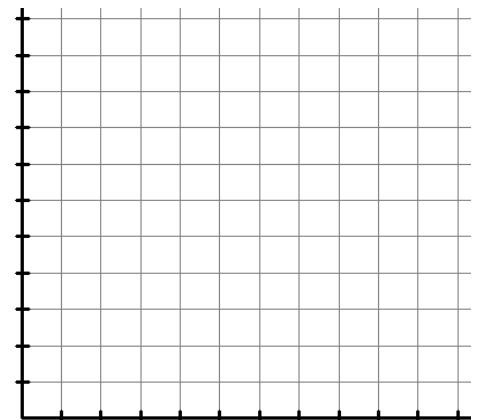
Dependent Variable

____ = _____

a) What does the point $(3, 27)$ mean in this situation?

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2. Bob wants to fence in his backyard. The cost of the fence is determined by how much fencing he uses.

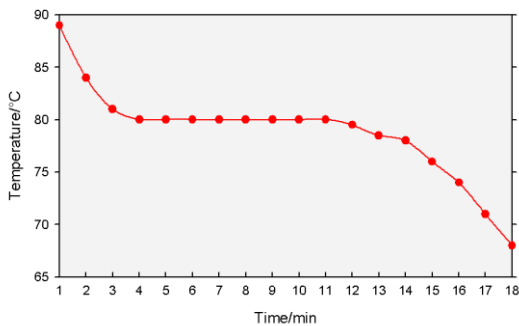| Fence Used (ft)	Cost (dollars)
40	150
90	225
130	285
150	315
180	360
220	420

Independent Variable

____ = _____

Dependent Variable

____ = _____

a) What does the point $(200, 390)$ mean in this situation?

Use the graph to identify the independent and dependent variable. Fill in the table and answer the questions.

3. The graph shows water temperature in Celsius of a pot of water cooking macaroni and cheese over time.

Independent Variable

____ = _____

Dependent Variable

____ = _____

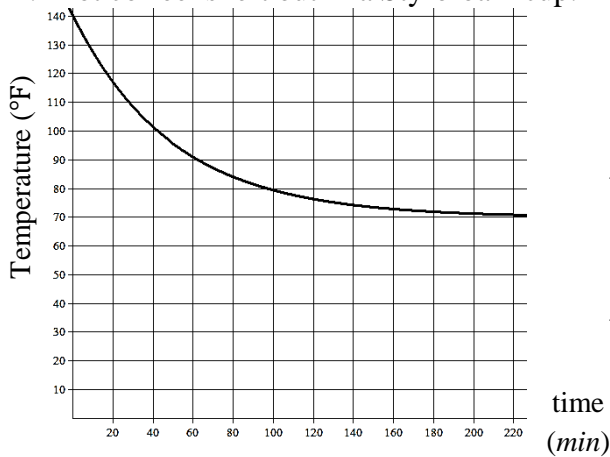| _____ (____)	_____ (____)
16	
3	
	71
	84

a) Describe the temperature of the water over the first 18 minutes.

b) Is the water cooling faster between 2-3 minutes or between 12-16 minutes? Justify.

4. Hot coffee is left out in a Styrofoam cup. The graph shows the temperature of the coffee over time.

Independent Variable

_____ = _____

Dependent Variable

_____ = _____

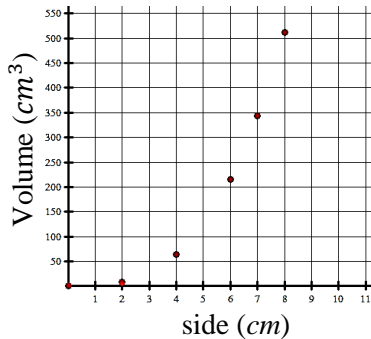| ____	____
(____)	(____)
20	
130	
	130
	85

a) What does the point $(100, 80)$ mean in this situation?

b) How hot is the coffee starting out?

c) What do you think the lowest temperature of the coffee will be? Why is that?

ANSWERS TO CORRECTIVE ASSIGNMENT

1.

Independent
s = length of each side of
the cube in cm

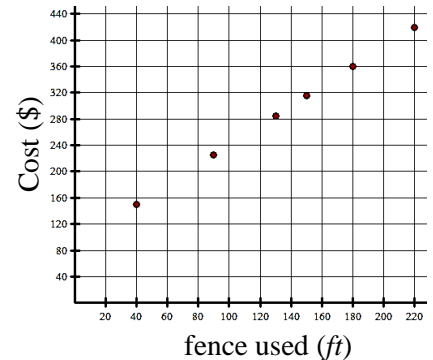Dependent
V = volume of the cube in
cm^3

a) When the side of the cube is 3 cm the cube's volume
is 27 cm^3

2.

Independent
f = amount of fence
used in ft

Dependent
c = cost of the fence in
$dollars$

a) A 200 foot fence costs $390

3.

Independent
m = time in $minutes$

Dependent
t = temperature of the
water in °C

time (min)	temperature (°C)
16	≈ 73
3	≈ 81
17	71
2	84

a) Starts off hot at 89°C and cools down to 80°C after 4
minutes. Stays constant at 80°C until 12 minutes, when it
starts to decrease temperature down to 67°C at 18 minutes.

b) 2-3, if you draw a line through the end points of the
intervals, the line is steeper OR the rate of change from 2-
3 is 84-81 which is 3 degrees per minute vs rate of change
from 12-16 is 80-73 which is 7 degrees every 4 minutes or
1.75 degrees per minute.

4.

Independent
m = time in $minutes$

Dependent
t = temperature of the
coffee in °F

time (min)	temperature (°F)
20	≈ 116
130	≈ 75
≈ 8	130
80	85

a) After 100 minutes the coffee will be 80°F

b) 140°F

c) Levels off at 70°F. That is the room temperature
of where the coffee was left. At some point the
coffee will cool to room temperature.