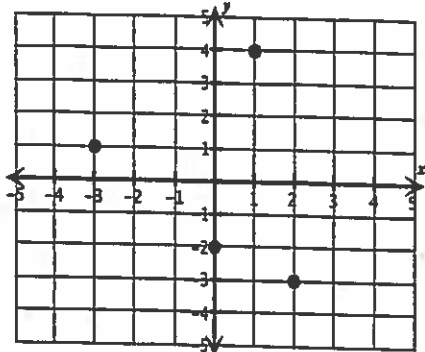


1. Which point could NOT be paired with (2, 3) to create a function?

- A. (0, 3)
- B. (3, 1)
- C. (3, 2)
- D. (2, 2)

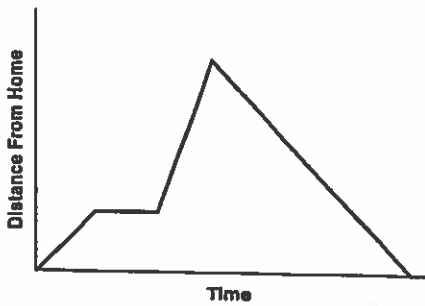
The set of graphed points shown below represents a function.



2. Which point could be added to the graph so that the set of graphed points remains a function?

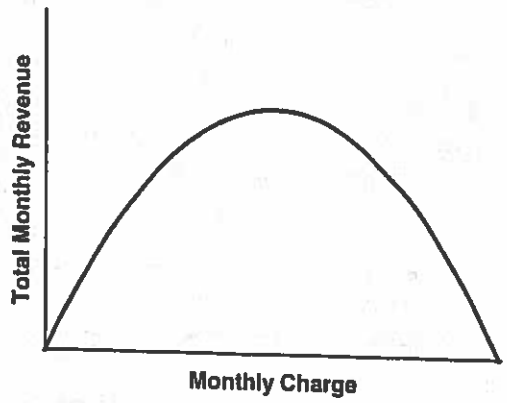
- A. (1, 5)
- B. (0, 2)
- C. (-2, 1)
- D. (-3, 2)

3. Which describes a feature of the function shown on the graph above?



- A. Mark starts his trip at a friend's house.
- B. Mark walks away from home at the same constant speed.
- C. Mark walks farther away from home before turning around and coming back home.
- D. Mark speeds up while walking home.

4. Which statement is NOT a feature of the function shown on the graph below?



- A. As the monthly charge increases, the total monthly revenue increases quickly at first and gradually slows down.
- B. As the monthly charge continues to increase, the total monthly revenue reaches a maximum and then starts decreasing, slowly at first, and gradually faster.
- C. With monthly charges that cost a little or that cost a lot, revenue is low.
- D. As the monthly charge continues to increase, the total monthly revenue increases.

Constructed Response Item

5. The equation shown represents the relationship between two quantities.

$$K = C + 273.15$$

Part A

Write a situation that could be represented by the equation. Be sure to identify which quantity corresponds to each variable in the equation.

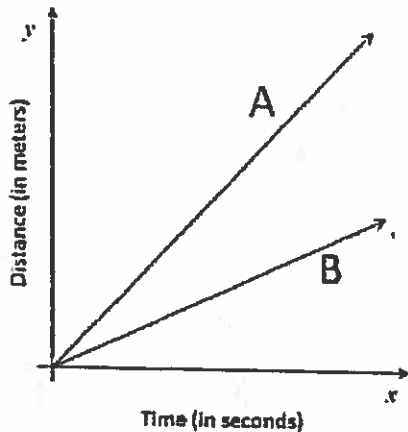
Part B

Create a set of 5 ordered pairs for the given equation.

Part C

Is the given equation a function? Explain your answer.

1. The graph below shows the distance two cars have traveled along a road over a period of several seconds. Car A is traveling 45 meters per second



Which of the equations below is the best choice for representing the distance traveled by Car B after x seconds?

- A. $y = 30x$
- B. $y = 45x$
- C. $y = 65x$
- D. $y = 90x$

Use the information in the below to answer questions 2-4.

Rebecca's purchased a new android phone from Talk Too Much Cellular. Her plan contains unlimited data and talk minutes for a flat fee of \$60. Additionally the company charges 5 cents per text message.

2. Which linear equation can be used to calculate Rebecca's cell phone? Let c represent the total cost and t represent the number of text messages sold.

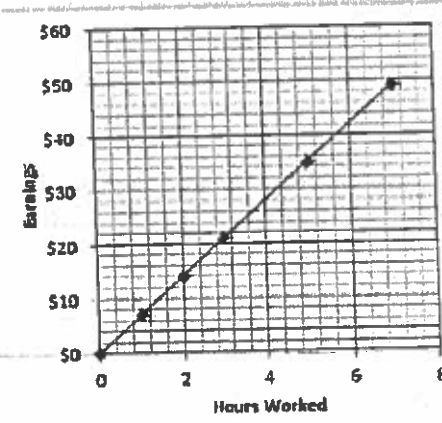
- A. $c = 60t + 0.05$
- B. $c = 60 + 0.05t$
- C. $c = (60 + 0.05)t$
- D. $c = (60 - 0.05)t$

3. When graphed which coordinates describe the initial value?

- A. (0.05, 0)
- B. (60, 0)
- C. (0, 0.05)
- D. (0, 60)

4. Which scenario could represent the point (200, 70)?

- A. Rebecca's bill is \$200 when she sends 70 text messages
- B. Rebecca's bill is \$70 when she sends 200 text messages
- C. Rebecca's bill is \$270 when she sends 200 text messages
- D. Rebecca's bill is \$130 when she sends 200 text messages.

<p>Sarah works 20 hours a week at a Coffee shop. Each week she earns \$185 before taxes</p>	<p><u>Marshawn</u> works at a pet store. The table below show his pre-tax earnings</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td># of hours</td> <td>3</td> <td>6.5</td> <td>7</td> <td>12</td> </tr> <tr> <td>\$ Earned</td> <td>\$29.10</td> <td>\$63.05</td> <td>\$67.90</td> <td>\$116.40</td> </tr> </table>	# of hours	3	6.5	7	12	\$ Earned	\$29.10	\$63.05	\$67.90	\$116.40
# of hours	3	6.5	7	12							
\$ Earned	\$29.10	\$63.05	\$67.90	\$116.40							
<p>Erika babysits for her neighbor after school. The table below show her earnings</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td># of hours</td> <td>2</td> <td>4</td> <td>6</td> <td>10</td> </tr> <tr> <td>\$ Earned</td> <td>\$16.50</td> <td>\$33</td> <td>\$49.50</td> <td>\$82.50</td> </tr> </table>	# of hours	2	4	6	10	\$ Earned	\$16.50	\$33	\$49.50	\$82.50	<p>Timothy works for a landscaping company. The graph below represents his pre-tax earnings</p> 
# of hours	2	4	6	10							
\$ Earned	\$16.50	\$33	\$49.50	\$82.50							

5. The phrase, tables, and graph below represent the hourly wages of four people. List each worker's name from least to greatest using their hourly wage.

Justify your response.

Use the information below for questions 1 and 2

Jon is going to get a job as a delivery driver. He can choose between the two plans shown for his weekly salary. Let x represent the number of hours Jon works in a week and let y represent his weekly salary, in dollars.

Salary Plan 1
 $y = 7x + 100$

Salary Plan 2

x	3	8	12	15
y	22.50	60	90	112.50

1. Which statement is true about the rate of change for the plans

- A. Plan 1 has a greater rate of change than Plan 2
- B. Plan 2 has a greater rate of change than Plan 1
- C. Both plans have the same rate of change
- D. Neither plan has a constant rate of change

2. Which statement accurately describes the initial value of each plan?

- A. Both Plan A and Plan B cross the y -axis at the origin
- B. Plan A crosses the y -axis at the point (0,100) and Plan B crosses the y -axis at the origin
- C. Plan A crosses the y -axis at the point (100,0) and Plan B crosses the y -axis at the origin
- D. Plan A crosses the y -axis at the point (0,100) and Plan B crosses the y -axis at the point (0, 22.50)

3. Which of the functions below is NOT linear?

- A. $y = 2x$
- B. $y = 2x + 1$
- C. $y = 2(x + 1)$
- D. $y = 2x^2 + 1$

Question #4 has more than one correct answer. Select ALL of the answer choices that are correct.

4. Which of the relationships below represent linear functions?

A. To charter a fishing boat, the captain charges a base fee of \$35.00 plus \$15.00 per person.

B.

x	1	2	3	4
y	3	6	11	18

C. $y = \frac{3}{4}x^2 - 2$

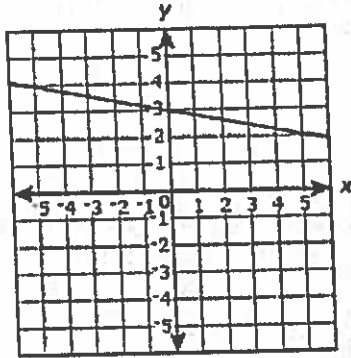
D. On Monday you put one penny in a jar. On Tuesday you put 2 pennies in a jar. On Wednesday you put 4 pennies in a jar. On Thursday you put 8 pennies in a jar. This pattern continues for a month

E. $\{(0,0), (1,1), (2,2), (3,3), (4,4), (5,5)\}$

F. $y = \frac{1}{2}x + 5$

Constructed Response Item. Use the figures below to answer all parts of question 5.

Relation A



Relation B

g	m
-3	20
-2	10
-1	5
0	1
1	5
2	10
3	20

Part A: Determine whether or not each relation represents a function. Justify your answers.

Part B: Determine whether or not each relation is linear or nonlinear. Explain how you know.

Part C: Write an equation to represent relation A. Explain what each part of your equation represents.

Use the information below to answer questions 1-3
Tonya surveyed the 8th grade students at her school
and found that:

- 120 students have a laptop at home
- 180 students own a tablet
- 100 don't have a laptop at home but do own a tablet
- 20 do not have either a laptop or a tablet at home

1. Create a two-way frequency table to represent the data from her survey. Be sure to complete all rows and columns

2. Of the students who own a laptop, what is the proportion of students who also own a tablet?

- A. $0.\overline{33}$
- B. $0.\overline{44}$
- C. $0.\overline{66}$
- D. 0.80

3. What proportion of the total students surveyed own a laptop & a tablet?

- A. $0.\overline{33}$
- B. $0.\overline{44}$
- C. $0.\overline{66}$
- D. 0.80

4. Of the students who own a tablet, what is the proportion of students who also own a laptop?

- A. $0.\overline{33}$
- B. $0.\overline{44}$
- C. $0.\overline{66}$
- D. 0.80

Question #5 has more than one correct answer. Select ALL of the answer choices that are correct.

5. Based on the results of the survey, which statements are true?

- A. More 8th grade students own a tablet, than a laptop.
- B. A total of 300 students were surveyed.
- C. More than 50% of the students surveyed own a laptop.
- D. 120 students own a tablet.
- E. Less than 10% of the students surveyed do not have a laptop or a tablet.
- F. At least 60% of the students who own a laptop also own a tablet.