1. A video club costs $25 to join. Each video that is rented costs $2.50. Let v represent the number of videos. Identify the independent and dependent variables. Then, write a rule in function notation for the situation.

A. Independent: videos rented; Dependent: total cost;

B. Independent: videos rented; Dependent: total cost;

C. Independent: total cost; Dependent: videos rented;

D. Independent: videos rented; Dependent: total cost;

2. Solve the inequality and graph the solutions.

A. C.

B. D.

3. Solve

A.

B.

C.

D.

4. Four times the smallest of three consecutive odd integers is five more than three times the largest. What is the sum of these three consecutive odd integers?

A.

B.

C.

D.

5. Simplify

A.

B.

C.

D.

6. Simplify

A.

B.

C.

D.

7. Gino knows that the formula for converting degrees Celsius () to Fahrenheit () is . Which of the following is correctly solved for C?

A.

B.

C.

D.

8. On certain multiple choice tests, students earn points for correct answers, but lose points for wrong answers.

The formula to calculate a student’s score on a test is

S is the student’s score, C is the number of correct answers, and W is the number of wrong answers.

Using the formula, , answer the following questions.

1. Saul took the test and got 36 items correct and 12 wrong. What was his score?
2. Franchesca took the test and got a score of 53. She got 29 items correct. How many did she get wrong?
3. David took the test and got a score of 80. He got 8 answers wrong. How many answers did he get correct?

9. You are playing a carnival game. You now have 50 prize tokens. Each time you win a game, you will get 8 prize tokens. As soon as you get at least 100 prize tokens, you will stop playing.

The function represents the total number of prize tokens that you have after winning games.

1. Fill in the missing values in the chart below.

|  |  |
| --- | --- |
|  |  |
|  |  |
|  |  |
|  |  |

1. What are the independent and dependent variables?

Independet Variable:

Dependent Variable:

1. Are the variables discrete or continuous?
2. What does the statement mean in the context of this situation?
3. Complete the domain:
4. What number would replace the variable in the statement?3

10. Look at the graph below.



Which of the following points, if added to the graph above, will cause the relation NOT to be a function?

A.

B.

C.

D.

11. Sketch a graph on the axes below for a function with the following characteristics.

* The function has x-intercepts of and .
* The y-intercept is 3.
* ,
* The function is increasing when and decreasing when .
* The domain of the function is .
* The function is continuous.

12. In Art class students create a project with blocks in a pattern. Students will use algebra to describe the pattern. A student writes two formulas on the board.

 Recursive: , Explicit:

1. Write the first 5 terms of the sequence.
2. You want to know the value of. Is it more efficient to use the recursive or explict formula? Why?

13. Determine the perimeter of the figure below.

14. The original cylinder is shown below. A new cylinder is created by doubling the radius and halfing the height of the original cylinder. Which cylinder will have a larger volume? Find the volume of each to justify your answer.





15.

Which is the first incorrect step in the solution shown above?

A. step 1

B. step 2

C. step 3

D. step 4