Unit 5 Lesson 4 – Discrete vs. Continuous Functions

1.) A function has the table of values below that relates the total cost for gallons of gas purchased.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Number of gallons  () |  |  |  |  |
| Total cost  () |  |  |  |  |

a.) Is this a linear function?

**If you said yes to part a, then answer all parts. If you said no to part a, then answer only parts d and e.**

b.) Is this a discrete or continuous function?

c.) Write a linear function for the values in the table.

d.) What is the rule for finding the output of this function?

e.) What number does the function assign to 20?

2.) A function has the table of values below.

|  |  |
| --- | --- |
| **Input** | **Output** |
| one |  |
| two |  |
| three |  |
| four |  |
| five |  |
| six |  |
| seven |  |

a.) Is this a linear function?

**If you said yes to part a, then answer all parts. If you said no to part a, then answer only parts d and e.**

b.) Is this a discrete or continuous function?

c.) Write a linear function for the values in the table.

d.) What is the rule for finding the output of this function?

e.) What would the function assign to the word eleven?

3.) A function has the table of values below that relates the total number of miles driven over a given time interval of hours.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Number of hours driven  () |  |  |  |  |
| Total miles driven  () |  |  |  |  |

a.) Is this a linear function?

**If you said yes to part a, then answer all parts. If you said no to part a, then answer only parts d and e.**

b.) Is this a discrete or continuous function?

c.) Write a linear function for the values in the table.

d.) What is the rule for finding the output of this function?

e.) What number does the function assign to 8?

f.) How long would it take to drive 500 miles?

4.) A function has the table of values below that shows how many students can fit on a certain number of buses.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Number of Buses  () |  | 9 |  |  |
| Number of Students  () |  |  |  |  |

a.) Is this a linear function?

**If you said yes to part a, then answer all parts. If you said no to part a, then answer only parts d and e.**

b.) Is this a discrete or continuous function?

c.) Write a linear function for the values in the table.

d.) What is the rule for finding the output of this function?

e.) What number does the function assign to 27?