**Practice Test Foundations and Pre-Cal 10**

1. Is each relation linear or non-linear? Explain your choice.
   1. The orbit of a planet around the sun on an elliptical path in terms of time and distance of the planet from the sun
   2. (-10,-5), (-5,0), (0,5), (5,10)
   3. y=2x2+3x-1

|  |  |
| --- | --- |
| X | Y |
| 82 | 16 |
| 91 | 20 |
| 100 | 25 |
| 109 | 31 |
| 118 | 38 |



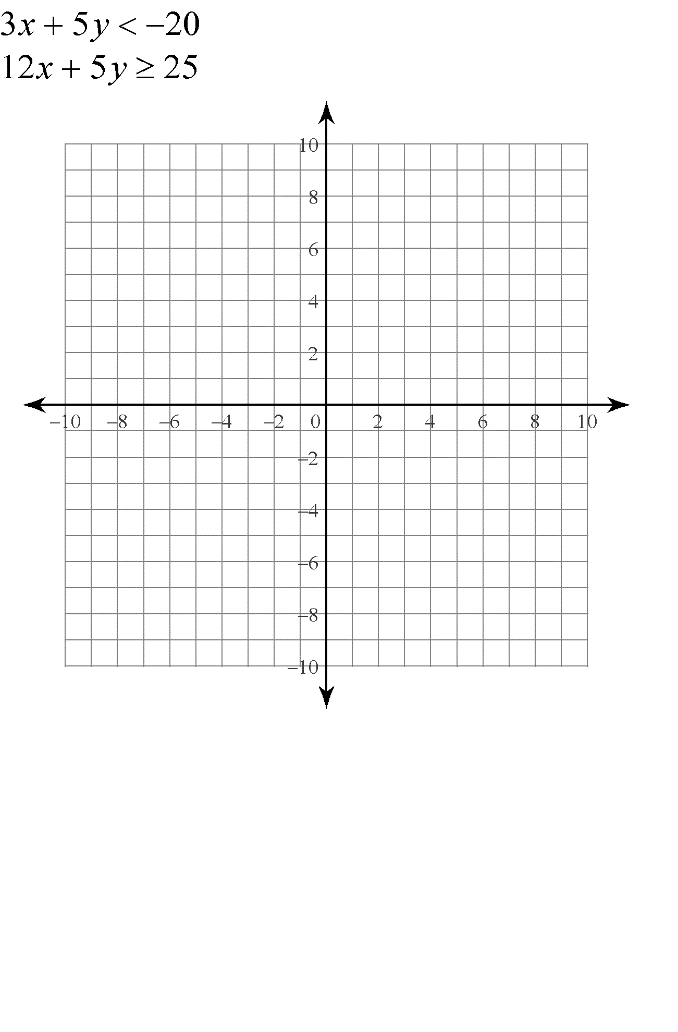
1. Which of the following represent the same relation?

|  |  |
| --- | --- |
| X | Y |
| -2 | 0 |
| 0 | 2 |
| 2 | 4 |
| 4 | 6 |

A  B

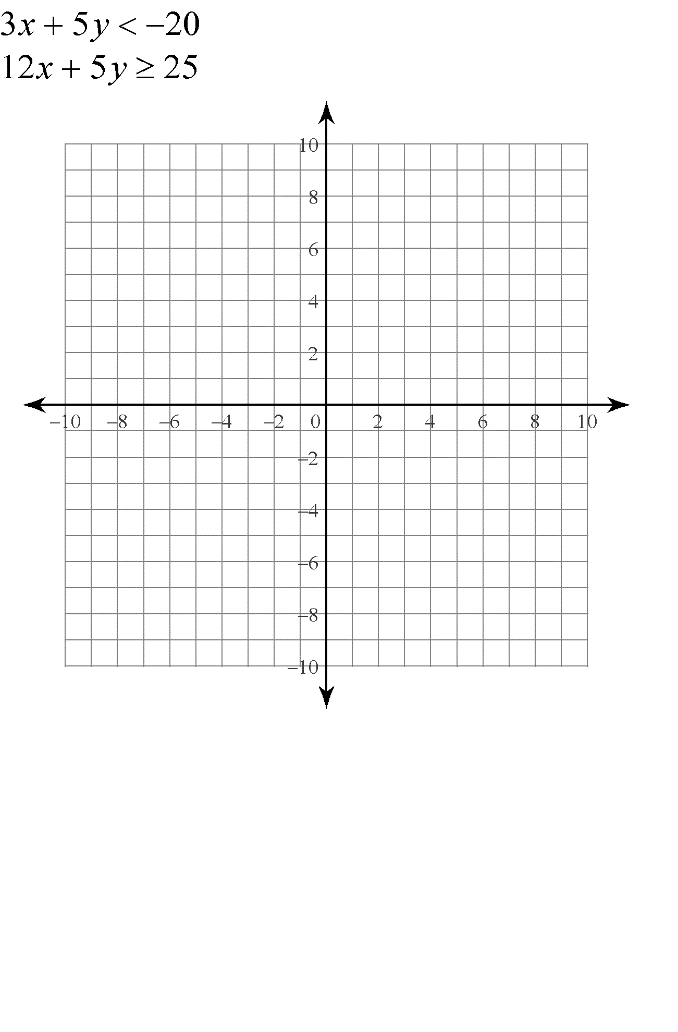
C One number is double another

D (-2,0), (0,2), (2,4), (4,6)

1. Katya wants to sell a camper trailer. The cost to place an advertisement in a newspaper is $37.95 for three lines of text and a picture plus $7 for each additional line of text. Consider the relation of total cost vs. total number of lines of text,
   1. Is this relation linear? Explain
   2. Identify the dependent and independent variable
   3. Create a set of ordered pairs to represent 3,4,5,6, and 7 lines of text in the advertisement
   4. Is this relation discreet or continuous?
   5. Graph the relation
2. State the domain and range of each relation
   1. (-9,5), (-5,5), (0,5), (0,8), (2,8)
   2. 
3. Express the domain and the range of each relation in interval notation and set notation.
   1. 
   2. 

|  |  |
| --- | --- |
| X | Y |
| 1 | 1 |
| 2 | 2 |
| 3 | 3 |
| 4 | 4 |
| 5 | 5 |

1. Which relations are functions? Explain how you know.



|  |  |
| --- | --- |
| Hair color | Gender |
| Brown | Male |
| Black | Male |
| Black | Female |
| Blonde | Female |
| Red | Female |

* 2. (2.3,5.1), (8.6,9.4), (8.6,9.2), (9.5, 10.0)

1. The function M(E)=E/2.7 can be used to approximate your weight, M, in Kg, on mars where , E, in Kg, is your weight on earth.
   1. Suppose you weight 66Kg on earth, how much would you weight on mars?
   2. How much would a Martian who weighs 14Kg on mars weight on earth?
2. For her local run for the cure Amber donates $50 of her own money she also collects $25 pledges. The function P(n)=25n+50 represents the total funds she contributes
   1. Determine an appropriate domain and range the use a table of values to graph the function.
   2. Determine the value of P(8). Explain the meaning of your answer.
   3. Prizes are awarded to students who collect more than $675. How may pledges must Amber collect to receive a prize?
   4. Explain why this situation depicts a function.