10C-RF1 Graphs – Interpret and explain the relationships among data, graphs, and situations.

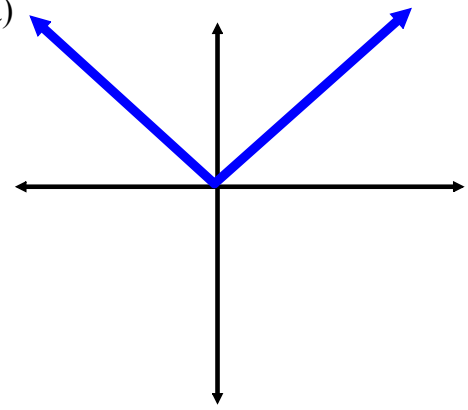
- ð I can determine the domain and range of a graph, set of ordered pairs, or table of values.
- ð I can determine if a set of data is continuous or discrete.
- ð I can interpret graphs.
- ð I can sketch a possible graph for a given situation.

May 31-7:32 PM

ð I can determine the domain and range of a graph, set of ordered pairs, or table of values.

Determine the domain and range of the following:

a)



b)

Time (hours)	Amount (mg)
0	240
17	120
34	60
51	30
68	15

c) (-3, 6), (2, 4), (9, -3), (1, 1)

Dec 15-1:44 PM

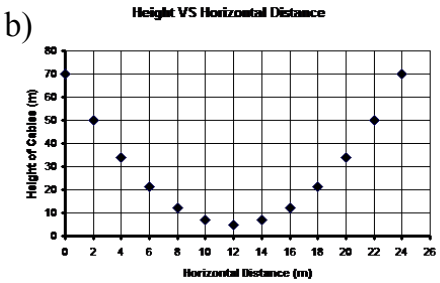
ð I can determine if a set of data is continuous or discrete.

What makes data continuous:

What makes data discrete:

Determine if the following are continuous or discrete:
a) James gets paid $30 for each lawn he mows.

b)



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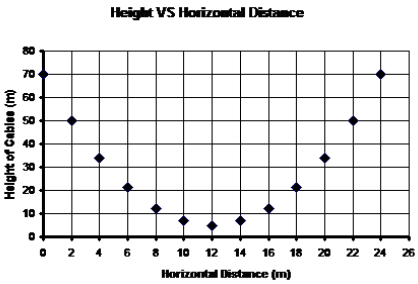
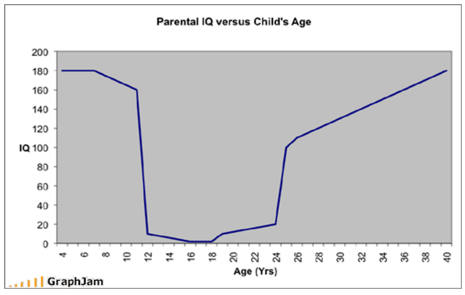
ð I can interpret graphs.

Write a scenario for each of the following graphs:





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ð I can sketch a possible graph for a given situation.

Sketch a graph for the following scenarios. Be sure to label your axis

a) A motorized Ferris wheel has a radius of 22 cm. The support structure keeps the wheel 3 cm above the ground. It takes 10 s to complete one revolution.

b) Bacteria growth on a plate that is left on the foods room counter.

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10C-RF2 Relations and Functions – Demonstrate an understanding of relations and functions.

ð I can determine if a relation is a function.

ð I can explain why all functions are relations, but not all relations are also functions.

What is a relations:

What is a function:

How do you determine if a relation is a function:

Dec 15-1:43 PM

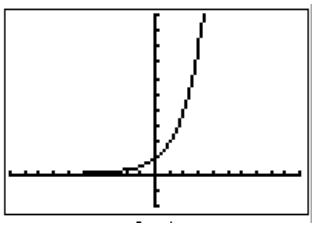
ð I can determine if a relation is a function.

Determine if the following are functions

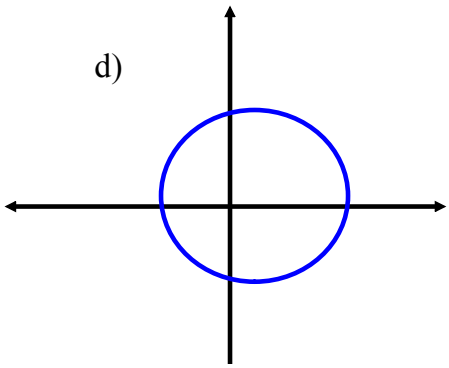
a) (2, 9), (3, 11), (4, 14), (5, 17)

b) (-2, 11), (-1, 5), (0, 3), (1, 7), (-2, 14), (5, 7)

c)



d)



e)

Age (years)	0	1	2	3	4
Value Retained ($)	$35 000.00	$32 200.00	$29 624.00	$27 254.08	$25 073.75

Dec 15-1:46 PM

ð I can explain why all functions are relations, but not all relations are also functions.

Explain, using examples, why all functions are relations:

Explain, using examples, why all relations are NOT functions:

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10C-RF4 Representing Linear Relations – Describe and represent linear relations, using: words, ordered pairs, tables of values, graphs, equations.

- ð I can distinguish between the independent and dependent variables.
- ð I can determine if a set of data is linear or non-linear.
- ð I can represent a linear relation using words.
- ð I can represent a linear relation using a set of ordered pairs.
- ð I can represent a linear relation using a table of values.
- ð I can represent a linear relation using a graph.
- ð I can represent a linear relation using an equation.

Dec 15-1:43 PM

ð I can distinguish between the independent and dependent variables.

What is an independent variable:

What is a dependent variable:

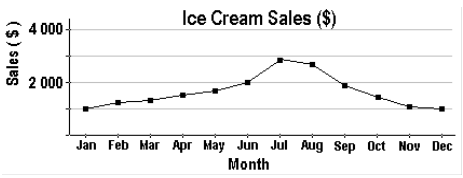
State what the dependent and independent variables would be in each case:

a) James gets paid $30 for each lawn he mows.

b)

Time (hours)	Amount (mg)
0	240
17	120
34	60
51	30
68	15

c)



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ð I can determine if a set of data is linear or non-linear.

What makes a function linear:

Determine if the following represent linear relations or nonlinear relations.

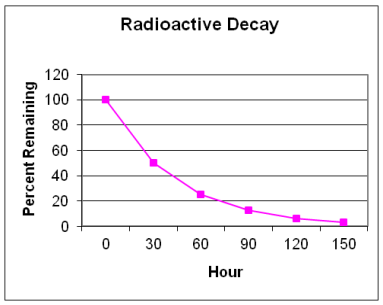
a) (2, 9), (3, 11), (4, 14), (5, 17)

b) (-2, 11), (-1, 5), (0, 3), (1, 7), (-2, 14), (5, 7)

c)

Age (years)	0	1	2	3	4
Value Retained ($)	$35 000.00	$32 200.00	$29 624.00	$27 254.08	$25 073.75

d)



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ð I can represent a linear relation using words.

a) y = 2/3x + 4

b) (0, 60), (1, 40), (2, 20), (3, 0)

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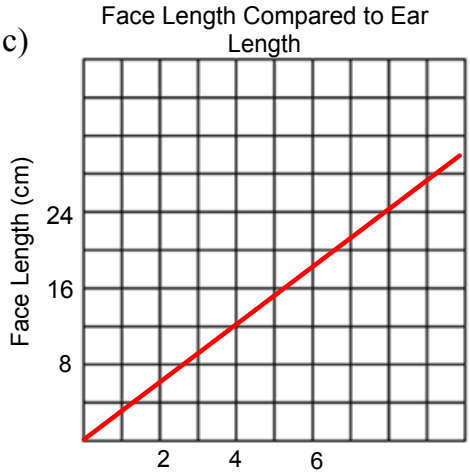
ð I can represent a linear relation using a set of ordered pairs.

a) m=2c - 9

b) The temperature of water is initially 10°C. The temperature of the water drops at a rate of 3°C/h.

c)



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ð I can represent a linear relation using a table of values.

a) y = -2x +3

b)

Fixed Cost $3.60
+
$1.50 per Kilometer

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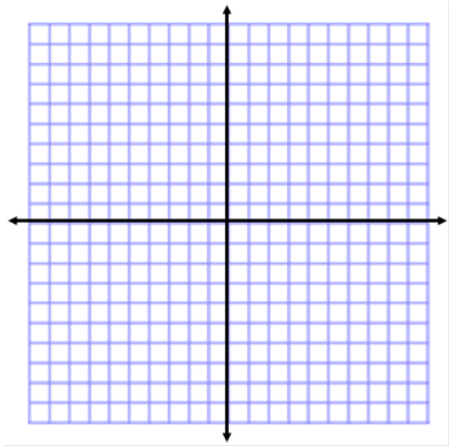
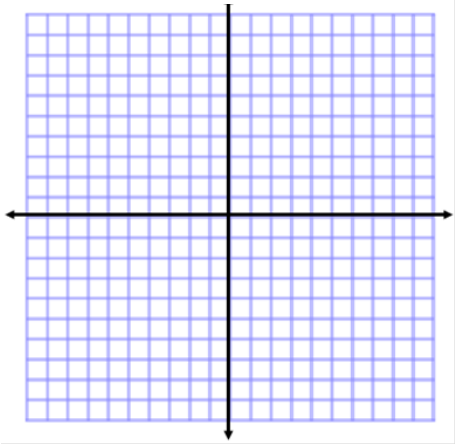
ð I can represent a linear relation using a graph.

a) $y = -3/4x + 2$



b)

Time (hours)	Amount (mg)
0	240
17	120
34	60
51	30
68	15



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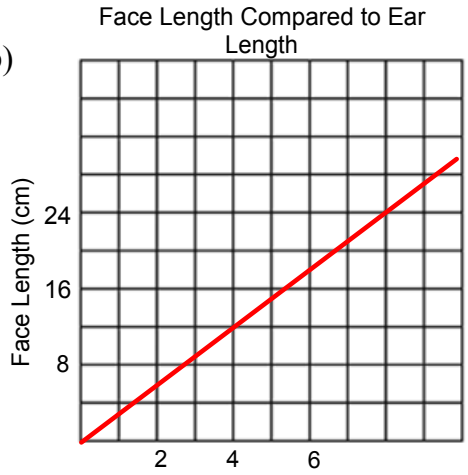
ð I can represent a linear relation using an equation.

a) Isabelle manages he diabetes by taking insulin to control her blood sugar. The number of units taken, N, is one fifteenth of the grams of carbohydrates she has consumed, g.

b)



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10C-RF8 Function Notation – Represent a linear function, using function notation.

- ð I can express an equation in *y*= form using function notation and vice versa.
- ð I can evaluate a function given inputs.
- ð I can determine the input of a function given the output.
- ð I can determine the range of a function given the domain, and vice versa.
- ð I can represent linear functions using words, ordered pairs, tables of values, and graphs.

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ð I can express an equation in *y*= form using function notation and vice versa.

a) Write the following in function notation:

i) C = 20n + 8

ii) P = n - 3

iii) t = 5d

b) Write the following as an equation with two variables:

i) d(t) = 3t - 5

ii) f(x) = -6x + 4

iii) P(n) = 2n - 7

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ð I can evaluate a function given inputs.
ð I can determine the input of a function given the output.

a) For the function f(x) = -5x + 11, Determine

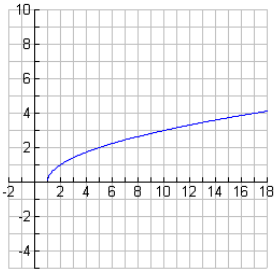
i) f(1)

ii) f(-3)

iii) f(x) = 11

iv) f(x) = 17

b) For the following function, determine



i) f(2)

ii) f(5)

iii) f(x) = 1

iv) f(x) = 4

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ð I can determine the range of a function given the domain, and vice versa.

a) The function f(x) = 3x - 4 has the domain {x/x = -2, -1, 0, 1, 2}, determine the range.

b) The function y = 2x - 3 has the range {y/y = -11, -7, -3, 1, 5}, determine the domain.

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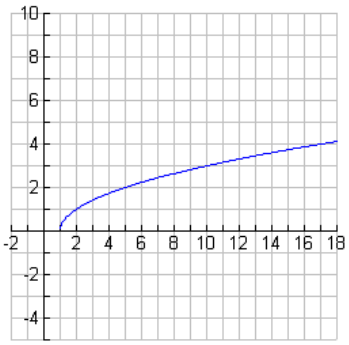
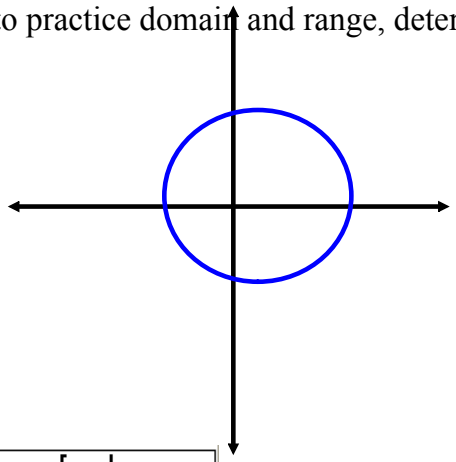
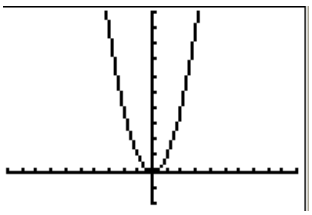
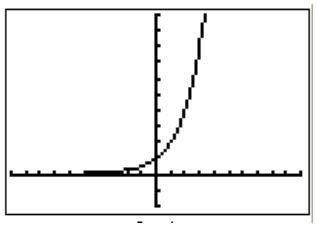
The following graphs and tables may be used to practice domain and range, determine if a relation is a function, etc.





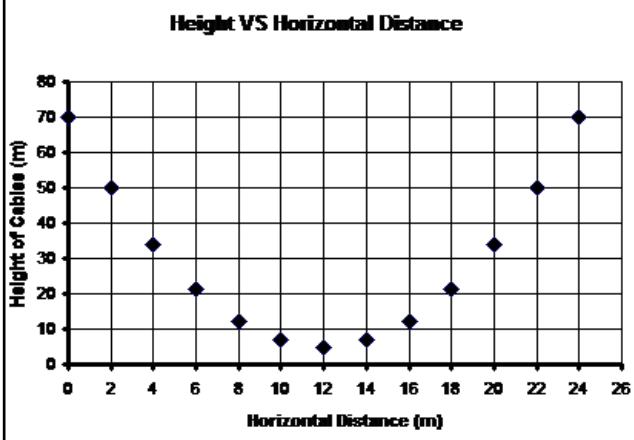




Jan 1-3:44 PM

Age (years)	0	1	2	3	4
Value Retained ($)	$35 000.00	$32 200.00	$29 624.00	$27 254.08	$25 073.75

Time (hours)	Amount (mg)
0	240
17	120
34	60
51	30
68	15



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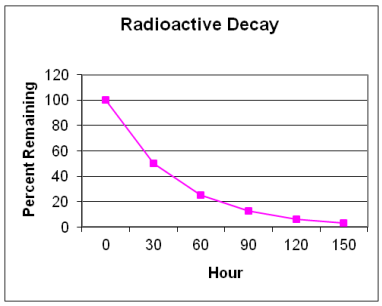
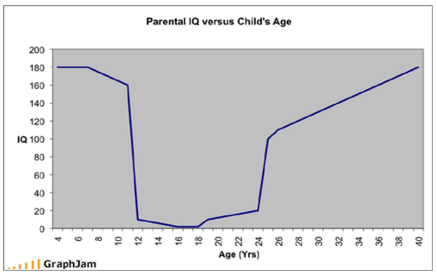
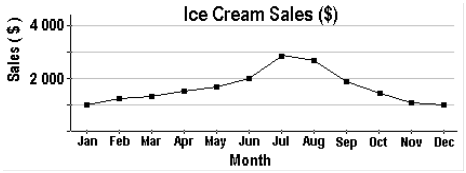
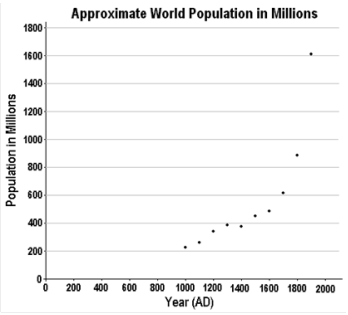

Radioactive Decay
Percent Remaining
120
100
80
60
40
20
0
0
30
60
90
120
150
Hour


Parental IQ versus Child's Age
IQ
Age (Yrs)
GraphJam


Ice Cream Sales ($)
Sales ($)
4 000
2 000
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month


Approximate World Population in Millions
Population in Millions
Year (AD)

Jan 1-3:48 PM