The Gift Sample Answers

A Develop Understanding Task

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Chile is celebrating her Quinceañera. Hannah knows the perfect gift to buy Chile, but it costs $360. Hannah can't afford to pay for this on her own so thinks about asking some friends to join in and share the cost.

1. How much would each person spend if there were two people dividing the cost of the gift? How much would each person spend if there were three people dividing the cost? Five people? Ten? One hundred?

   2 people : 360/2 = $180
   3 people : 360/3 = $120
   5 people : 360/5 = $72
   10 people : 360/10 = $36
   100 people : 360/100 = $3.60

2. Determine the function that could be used to model the amount each person would spend depending on the number of people contributing to the gift.

   x = # people contributing $f(x) = \frac{360}{x}$

3. Use multiple representations to show how the amount each person would contribute to the gift would change depending on the number of people contributing. Describe the connections between the representations.

   See attached

4. Describe the features of the function based on the context (domain/range, increasing/decreasing, maxima/minima, discrete/continuous, end behavior, intercepts, asymptotes).

   See attached

Curriculum 2.0 Algebra 2: Unit 2-Topic 3, SLT 21
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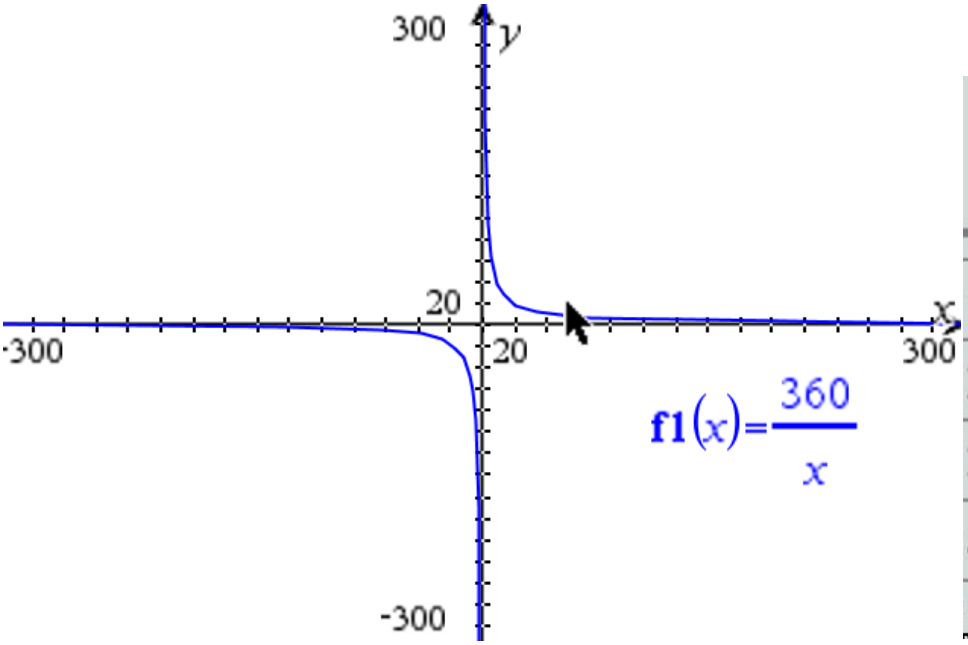
Name:
Date: Period:

3)



x	f1(x):=
	360/x
1.	360.
2.	180.
3.	120.
4.	90.
5	72

4)

Domain:
$x \neq 0$
For this context we would restrict to only positive values of x.
Range:
$y \neq 0$
For this context we would restrict to only positive values of y.
Increasing or decreasing intervals:
Decreasing: $(0, \infty)$
End Behaviors:
As $x \to \infty, y \to 0$

Maxima/Minima:
No maximum or minimum points

Asymptotes:
$x = 0$ *and* $y = 0$

Discrete/Continuous:
The function is continuous, but for the context we would look at discrete values since you cannot refer to part of a person.

Intercepts?
No x or y intercepts