Function Rummy

Strands:

Number & Operations	
Algebra	X
Measurement	
Geometry	
Data & Probability	

Materials:

- A deck of *Function Rummy* cards

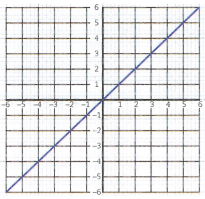
Where?

Outside	
Inside	X
On-line	
On-site	

Play a fun game of rummy to practice matching representations of functions! This game is for 2 to 4 players.

Pre-game Activity:

- Sort the deck of *Function Rummy* cards into sets. A set is a group of 3 or 4 cards that show different representations of the same equation (function). For example, each of the following represent $y = x$:



For every gift that Tomoya receives, he writes a thank-you card. What is the relationship between number of gifts and number of cards?

$y = x$

x	y
0	0
1	1
2	2
3	3
4	4

Set-Up:

- Shuffle the cards and deal one at a time face down until each player has 6 cards.
- Stack the remaining cards face down to form a draw pile.
- Turn over the top card of the draw pile and lay it face up next to the draw pile to form the discard pile.

Object of the Game:

- Be the first to play all of your cards.

On Your Turn:

1. Draw a card from the top of either the draw pile or the discard pile. You may take any card in the discard pile as long as you take all of the cards on top of it also. Use the card on the bottom of the stack; it may not be stored in your hand.
2. If possible, form a set. Place your set face up in front of you. You may form more than one set if you can. If someone already had laid down a set of three and you have the card with the fourth representation of that function, you may lay it down face up on their set to complete the set of representations for that particular equation.
3. Discard one card to end your turn.
4. Play moves to the player on the left.
5. If no cards remain in the draw pile, shuffle the discard pile and turn it facedown to start a new draw pile.
6. The game is over once a player is out of cards. Then play again!

Extension:

7. How did you decide which cards went together? What clues did you look for in each representation to determine if the card represented a linear equation or non-linear equation?

$y = 5x$

1

2

$y = -\frac{1}{2}x + 200$

3

x	y
1	30
2	15
3	10
4	7.5
5	6

4

$y = -680x$

5

x	y
0	300
2	290
4	280
6	270

6

$y = 7.5x - 3$

7

Anna has $30 to spend on fabric to make a dress or skirt and wants to know how many yards of fabric she can buy depending on the price per yard for the fabric she chooses.

8

$y = x - 2$

9

Latisha and her friends are going on a roadtrip with no destination. If they are driving 65 mph, how many miles have they traveled after x hours?

10

$y = 1.06x + 2.5$

11

At a discount store there is an mp3 player for sale for $300. Every week the price of the mp3 player is reduced an additional $5. How much would the mp3 player cost after x weeks?

12

$y = \frac{2}{x}$

13

$y = -\frac{12}{x}$

14

15

x	y
0	–3
10	72
20	147
30	222
40	297

16

Anaïs is currently 200 pounds and would like to lose weight. After two weeks of moderate exercise, she has lost one pound. If she continues with this exercise routine, how much weight will she have lost after x weeks?

17

x	y
0	200
2	199
4	198
6	197
8	196

18

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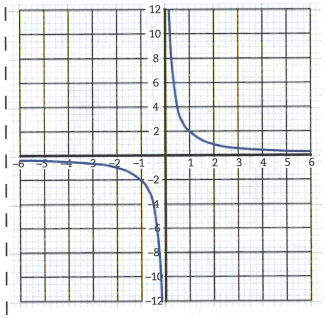
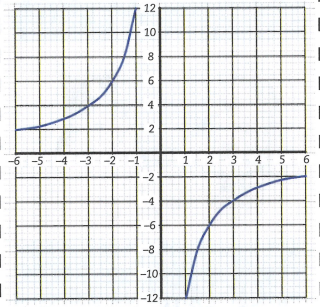
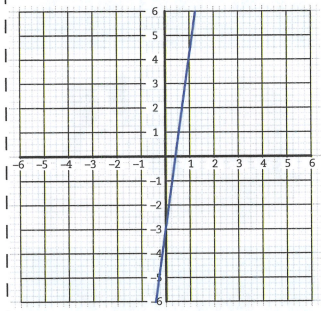
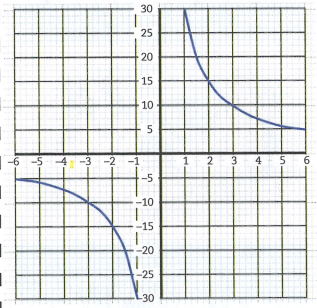
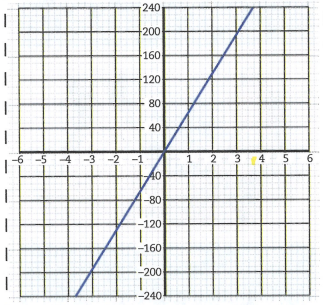
$y = 65x$ 19	<table><tr><th>x</th><th>y</th></tr><tr><td>0</td><td>–2</td></tr><tr><td>1</td><td>–1</td></tr><tr><td>2</td><td>0</td></tr><tr><td>3</td><td>1</td></tr><tr><td>4</td><td>2</td></tr></table> 20	$y = \frac{800{,}000}{x}$ 21	$y = \frac{30}{x}$ 22	 23	Damian's brother was born when Damian was two years old. How old is his brother depending on Damian's age? 24
$y = \frac{2000}{x}$ 25	Ms. Kalmbach is considering renting a house that has a large rectangular backyard. She wants to figure out if there will be room for her children's play equipment. The owner said the backyard is 2000 square feet. What might the actual dimensions of the backyard be? 26	<table><tr><th>x</th><th>y</th></tr><tr><td>1</td><td>2000</td></tr><tr><td>2</td><td>1000</td></tr><tr><td>3</td><td>$666\frac{2}{3}$</td></tr><tr><td>4</td><td>500</td></tr></table> 27	$y = -5x + 300$ 28	 29	<table><tr><th>x</th><th>y</th></tr><tr><td>0</td><td>0</td></tr><tr><td>1</td><td>5</td></tr><tr><td>2</td><td>10</td></tr><tr><td>3</td><td>15</td></tr><tr><td>4</td><td>20</td></tr></table> 30
 31	<table><tr><th>x</th><th>y</th></tr><tr><td>0</td><td>0</td></tr><tr><td>3</td><td>–2040</td></tr><tr><td>6</td><td>–4080</td></tr><tr><td>9</td><td>–6120</td></tr><tr><td>12</td><td>–8160</td></tr></table> 32	 33	Taio just got a new job earning $7.50 per hour, but he had to purchase a work shirt from the company for $3. How much will Taio have made working his new job depending on the number of hours he works? 34	 35	Jamin and his friends borrowed money from his mom to buy pizza. They now owe her $12. Depending on how many of them contribute money to pay his mom back, how much does each of them owe? 36

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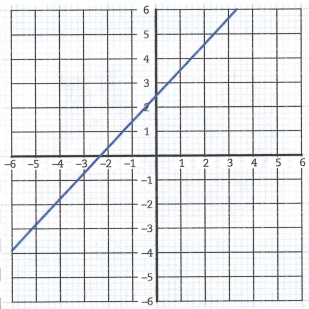
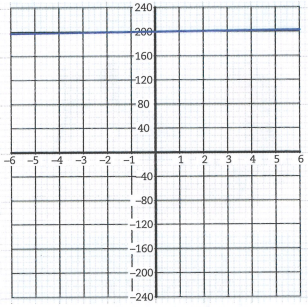


37

Every month Mik takes $680 out of his bank account for rent. After x months, how much money has been taken out of his account for rent?

38



39

A group got 2 large pizzas for a party. Depending on how many people show up to the gathering, how much of the two pizzas will each person get?

40

x	y
1	2
2	1
3	$\frac{2}{3}$
4	$\frac{1}{2}$
5	$\frac{2}{5}$

41

Sean gets paid $5 every week for mowing the yard for his grandparents. How much has Sean earned for mowing x weeks into the summer?

42

Marian wishes to purchase one item online. No matter what she chooses to order, there will be a $2.50 shipping fee. How much will the total of her order be depending on the cost of the item she chooses if sales tax is 6% (added before shipping fee)?

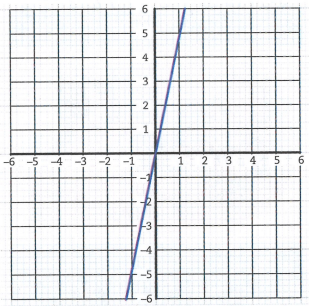
43

x	y
0	2.50
2	4.62
3	5.68
4	6.74
5	7.80

44

x	y
1	800,000
2	400,000
3	266,666.67
4	200,000
5	160,000

45



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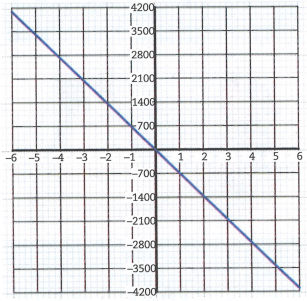
47

The employees at the law firm decide to play the lottery together. If they win, the prize is $800,000. How much of the prize will each employee get, depending on how many of them contribute to purchase the lottery tickets?

48

x	y
1	–12
2	–6
3	–4
4	–3
5	–2.4

49



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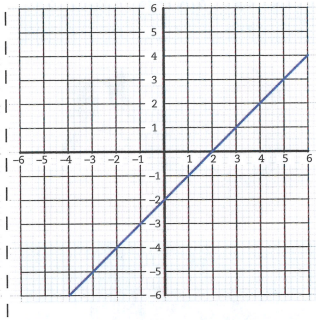

51

x	y
0	0
1	65
2	130
3	195
4	260
5	325

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