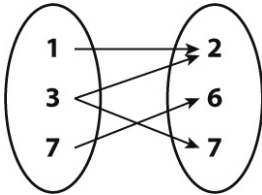
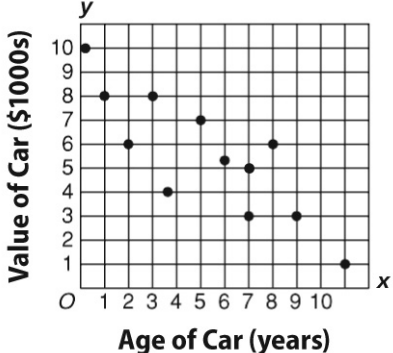


For full credit, show all work.

1.	<p>For the situation described, first write an equation in the form $y = mx + b$. Then solve the problem.</p> <p>A sales associate is given a \$500 hiring bonus with a new job. She earns an average commission of \$250 per week. How much does she earn if she works for 12 weeks?</p>													
2.	<p>Mr. Mangham is at Home Depot looking at two new rugs for his classroom. The cost of all the rugs in the store is a linear relationship.</p> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tbody> <tr> <td style="padding: 5px;">200 square feet - \$56</td> <td style="padding: 5px;">300 square feet - \$90</td> </tr> </tbody> </table> <p>Write an equation in slope-intercept form for the cost of rugs at Home Depot.</p>	200 square feet - \$56	300 square feet - \$90											
200 square feet - \$56	300 square feet - \$90													
3.	<p>Write an equation in the form $y = mx + b$ for the table below.</p> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tbody> <tr> <td style="padding: 5px;">Months (x)</td> <td style="padding: 5px;">2</td> <td style="padding: 5px;">6</td> <td style="padding: 5px;">12</td> </tr> <tr> <td style="padding: 5px;">Account Balance (y)</td> <td style="padding: 5px;">\$300</td> <td style="padding: 5px;">\$600</td> <td style="padding: 5px;">\$1,050</td> </tr> </tbody> </table>	Months (x)	2	6	12	Account Balance (y)	\$300	\$600	\$1,050					
Months (x)	2	6	12											
Account Balance (y)	\$300	\$600	\$1,050											
4.	<p>Complete the table to model the linear relationship. Then write an equation in slope-intercept form for the relationship.</p> <p>A bowling alley charges \$3.00 to rent shoes and \$1.50 per each game bowled.</p> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tbody> <tr> <td style="padding: 5px;">Games Bowled</td> <td style="padding: 5px;">1</td> <td style="padding: 5px;">2</td> <td style="padding: 5px;">3</td> <td style="padding: 5px;">4</td> </tr> <tr> <td style="padding: 5px;">Total Cost</td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> </tr> </tbody> </table>	Games Bowled	1	2	3	4	Total Cost							
Games Bowled	1	2	3	4										
Total Cost														
5.	<p>The table shows the linear relationship of how the number of months of membership at two gyms relates to the total cost of the membership, including the membership fee.</p> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <thead> <tr> <th style="padding: 5px;">Months</th> <th style="padding: 5px;">Cost at Gym A</th> <th style="padding: 5px;">Cost at Gym B</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">1</td> <td style="padding: 5px;">\$70</td> <td style="padding: 5px;">\$55</td> </tr> <tr> <td style="padding: 5px;">2</td> <td style="padding: 5px;">\$90</td> <td style="padding: 5px;">\$80</td> </tr> <tr> <td style="padding: 5px;">3</td> <td style="padding: 5px;">\$110</td> <td style="padding: 5px;">\$105</td> </tr> </tbody> </table> <p>Write an equation in slope-intercept form for the cost at gym A.</p>	Months	Cost at Gym A	Cost at Gym B	1	\$70	\$55	2	\$90	\$80	3	\$110	\$105	
Months	Cost at Gym A	Cost at Gym B												
1	\$70	\$55												
2	\$90	\$80												
3	\$110	\$105												
6.	<p>Use the table in the previous question to write an equation in slope-intercept form for the total cost at gym B.</p>													

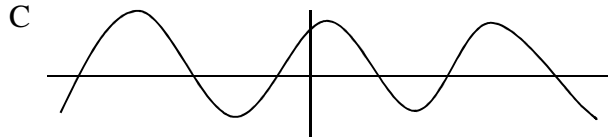
7.	In the previous questions, suppose you plan to be a member for 10 months. What is the total cost at each gym and which is the better overall cost?											
8.	<p>A ticket agency charges a processing fee for ticket purchases. The following ticket purchases were made for tickets to a concert.</p> <ul style="list-style-type: none"> • William spends \$132 on 4 tickets. • Theo buys 2 tickets for \$72. • The ticket agency charges Ellis \$252 for 8 tickets. <p>Place the information above in the table.</p> <table border="1" data-bbox="480 543 1243 642" style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">Tickets</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">Total Cost</td> <td></td> <td></td> <td></td> </tr> </table>	Tickets				Total Cost						
Tickets												
Total Cost												
9.	In the question above, determine whether the relationship between tickets purchased and total cost is linear. If so, write an equation in the form $y = mx + b$.											
10.	In the questions above, find the cost of 7 tickets.											
11.	<p>Why is this not a function?</p> <div style="text-align: center;">  </div> <p>A 7 is not mapped onto itself. B 3 is mapped onto two different numbers. C The numbers in the ovals are different. D There are not enough numbers to decide if this is a function.</p>											
12.	<p>Norma made the graph below to show the relationship between the age and value of 12 cars. Which value, when removed from the graph, would result in the relationship being a function?</p> <div style="text-align: center;">  </div> <p>A (3.5, 4) B (9, 3) C (6, 5.25) D (7, 5)</p>											

List all the items below which are functions.

A $y = 6x + 3$

B $(2,2), (3,1), (-2,-2), (4,1), (3,0)$

13.



D

Input	3	6	9	3
Output	1	8	2	4

14.

x	y
8	1
12	3
18	6
20	7

Which equation best represents the relationship between x and y in the table above?

A $y = 0.5x - 3$

C $x = 2y - 6$

B $y = 0.5x - 6$

D $y = 2x - 3$

15.

Graph the system of linear equations below on a sheet of *graph paper*.

$$y = -4x - 14$$

$$y = 3x$$

Which of the following is the solution to the system of equations?

A $(2,6)$

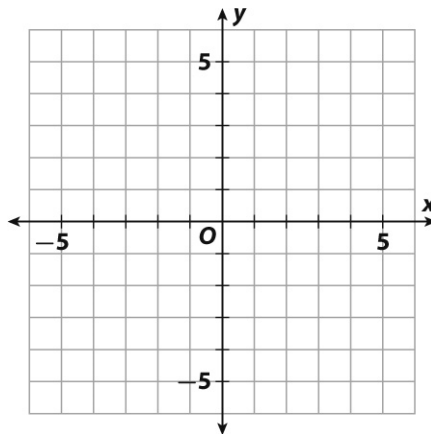
C $(-2,-6)$

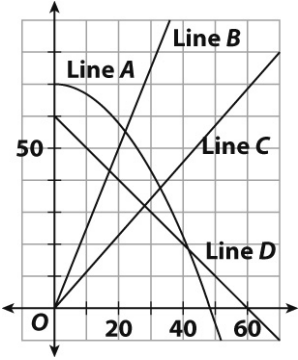
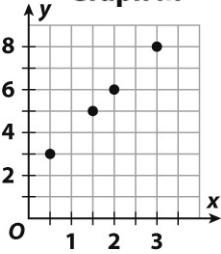
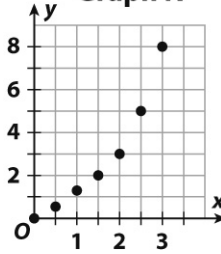
B $(4,-14)$

D $(4,3)$

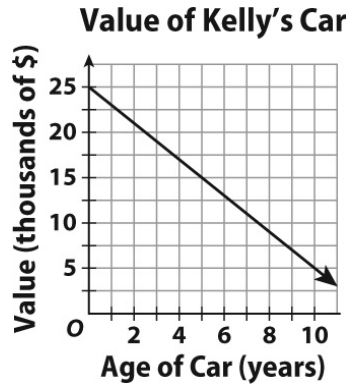
16.

Graph the equation $y = \frac{1}{2}x - 2$.



17.	 <p>What is the equation for line D?</p> <p>A $y = 10x + 60$ C $y = -1x + 60$ B $y = 60x - 10$ D $y = -10x + 60$</p>	
18.	<p>Which graph above could not be written as an equation in the form $y = mx + b$?</p> <p>A line A C line C B line B D line D</p>	
19.	<p>Which graph above shows a linear non-proportional relationship?</p> <p>A line A C line C B line B D line D</p>	
20.	<p>Which graphs above shows a proportional relationship?</p> <p>A lines A & B C lines B, C, & D B lines B & C D all lines</p>	
21.	<p>Which statement compares the data on these graphs?</p> <div style="display: flex; justify-content: space-around;"> <div data-bbox="516 1241 735 1518"> <p>Graph M</p>  </div> <div data-bbox="760 1241 979 1518"> <p>Graph N</p>  </div> </div> <p>A M is linear. N is not linear. B M is increasing. N is decreasing. C Both have the same y-value for $x = 2$. D Both show proportional relationships.</p>	

The graph shows the value of Kelly's car in the years after she purchased it.



22.

What was the value of Kelly's car when she purchased it?

23.

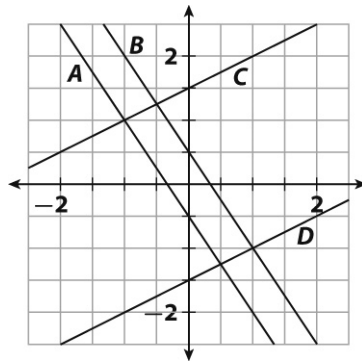
By what amount does the value of Kelly's car decrease every year?

24.

What equation shows the relationship between y , the value of Kelly's car and x , the age of the car in years?

Which line has a slope of $\frac{1}{2}$ and a negative y -intercept?

25.



A line A

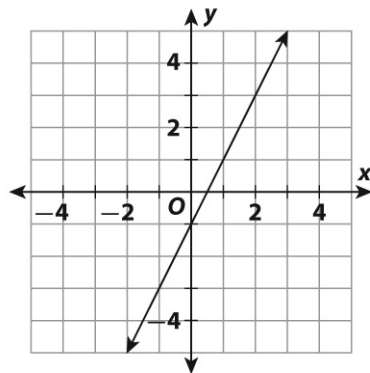
B line B

C line C

D line D

Find the equation of a line that fits the data shown in the graph below.

26.



27.	Kim starts with \$500 and spends \$15 per week. Her brother Roy starts with \$800 and spends \$35 per week. Write a system of equations that represents this situation.											
28.	Graph the problem above on a sheet of <i>graph paper</i> .											
29.	In the problem above, when does Roy have more than Kim?											
30.	In the problem above, what does the intersection represent?											
31.	<p>Which equation below represents the relationship shown in the table?</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>x</td> <td>0</td> <td>1</td> <td>3</td> </tr> <tr> <td>y</td> <td>5</td> <td>7</td> <td>11</td> </tr> </table> <p>A $y = x + 5$ C $y = 2x + 5$ B $y = x + 6$ D $y = 3x + 2$</p>	x	0	1	3	y	5	7	11			
x	0	1	3									
y	5	7	11									
32.	<p>A sailboat rental company charges an initial fee plus an hourly rate to rent sailboats. The costs are shown in the table below.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>Number of Hours</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td>Price (\$)</td> <td>22.50</td> <td>29.25</td> <td>36.00</td> <td>42.75</td> </tr> </table> <p>Write a linear equation that shows the relationship between the cost and the number of hours of the sailboat rental.</p>	Number of Hours	1	2	3	4	Price (\$)	22.50	29.25	36.00	42.75	
Number of Hours	1	2	3	4								
Price (\$)	22.50	29.25	36.00	42.75								
33.	What is the initial fee to rent a sailboat?											
34.	What is the hourly rate to rent a sailboat?											
35.	<p>A furnace operates at $2300^{\circ}F$. Before it can be used to extract metal from an ore, the temperature must be raised to $3600^{\circ}F$. This takes place at a rate of $250^{\circ}F$ per quarter hour. Which equation gives the furnace temperature T after q quarter hours?</p> <p>A $T = 250q + 2300$ C $T = 2300q + 250$ B $T = 250q + 3600$ D $T = 3600q + 250$</p>											
36.	<p>Jose deposited \$250 into his savings account. He then saved \$40 per month. Which of the following equations shows a, the amount in Jose's savings account after t months?</p> <p>A $a = 40t + 250$ C $a = 250t + 40$ B $a = -40t + 250$ D $a = 210t + 40$</p>											