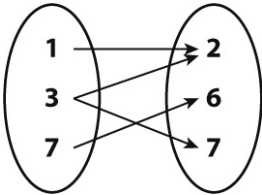
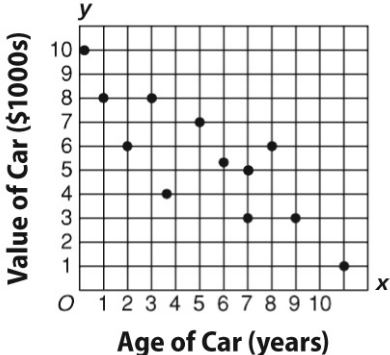
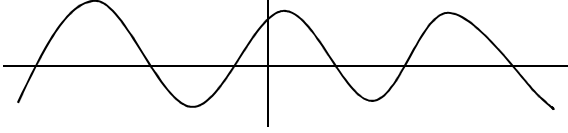
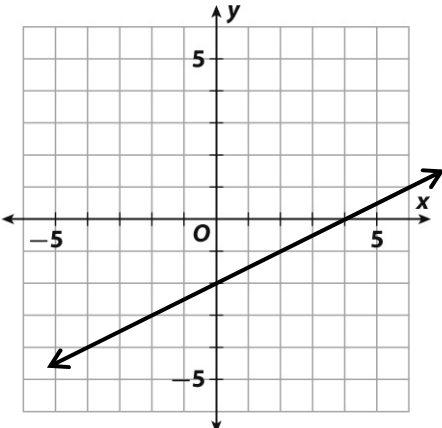


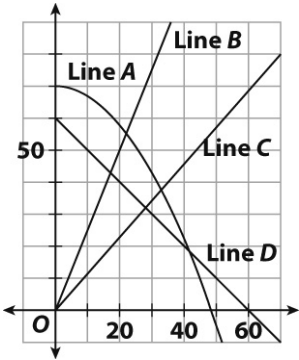
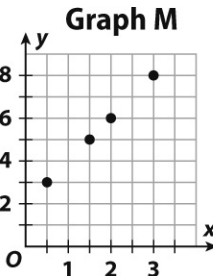
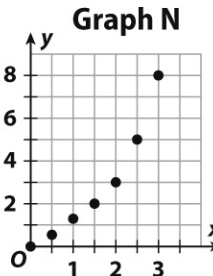
STEPS FOR FULL CREDIT

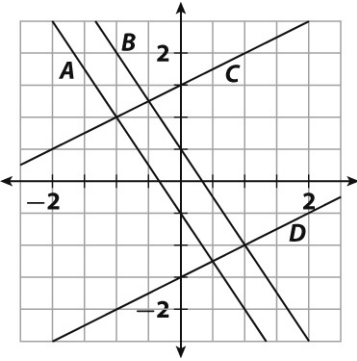
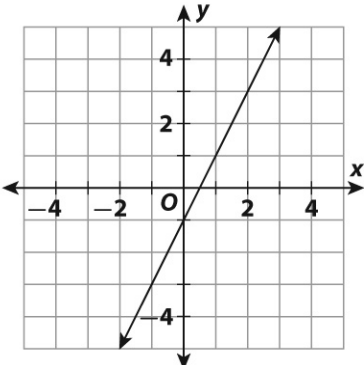
1. Complete, show all work 2. Check 3. Correct

| | | | | | | | | | | | | |
|--|--|----------------------|------------------------|------------------------|----------------------|----|----------------------------|-------------------|--------|---------|--------|--------|
| 1. | For the situation described, first write an equation in the form $y = mx + b$. Then solve the problem. | $y = 250x + 500$ | | | | | | | | | | |
| | 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? | \$3500 | | | | | | | | | | |
| 2. | 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. | $y = 0.34x - 15.4$ | | | | | | | | | | |
| | <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="padding: 5px;">210 square feet - \$56</td> <td style="padding: 5px;">310 square feet - \$90</td> </tr> </table> <p>Write an equation in slope-intercept form for the cost of rugs at Home Depot. Solve for b by using a $y = mx + b$ equation.</p> | | 210 square feet - \$56 | 310 square feet - \$90 | | | | | | | | |
| 210 square feet - \$56 | 310 square feet - \$90 | | | | | | | | | | | |
| 3. | Write an equation in the form $y = mx + b$ for the table below. | $y = 75x + 150$ | | | | | | | | | | |
| <table border="1" style="margin-left: auto; margin-right: auto;"> <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> </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. | Complete the table to model the linear relationship. Then write an equation in slope-intercept form for the relationship. | $y = 1.5x + 3$ | | | | | | | | | | |
| | A bowling alley charges \$3.00 to rent shoes and \$1.50 per each game bowled. | | | | | | | | | | | |
| <table border="1" style="margin-left: auto; margin-right: auto;"> <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;">\$4.50</td> <td style="padding: 5px;">\$6.00</td> <td style="padding: 5px;">\$7.50</td> <td style="padding: 5px;">\$9.00</td> </tr> </table> | | | Games Bowled | 1 | 2 | 3 | 4 | Total Cost | \$4.50 | \$6.00 | \$7.50 | \$9.00 |
| Games Bowled | 1 | 2 | 3 | 4 | | | | | | | | |
| Total Cost | \$4.50 | \$6.00 | \$7.50 | \$9.00 | | | | | | | | |
| 5. | 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. | $y = 20x + 50$ | | | | | | | | | | |
| | <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="padding: 5px;">Months</td> <td style="padding: 5px;">Cost at Gym A</td> <td style="padding: 5px;">Cost at Gym B</td> </tr> <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> </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 |
| Months | Cost at Gym A | Cost at Gym B | | | | | | | | | | |
| 1 | \$70 | \$55 | | | | | | | | | | |
| 2 | \$90 | \$80 | | | | | | | | | | |
| 3 | \$110 | \$105 | | | | | | | | | | |
| 6. | Use the table in the previous question to write an equation in slope-intercept form for the total cost at gym B. | $y = 25x + 30$ | | | | | | | | | | |

| | | | | | | | | | | | | |
|-------------------|--|--------------------------------|----------|-------|---|-------------------|------|-------|-------|--|--|--|
| 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? | A: \$250 | B: \$280 | Gym A | | | | | | | | |
| 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="483 541 1239 640"> <tr> <td>Tickets</td> <td>2</td> <td>4</td> <td>8</td> </tr> <tr> <td>Total Cost</td> <td>\$72</td> <td>\$132</td> <td>\$252</td> </tr> </table> | Tickets | 2 | 4 | 8 | Total Cost | \$72 | \$132 | \$252 | | | |
| Tickets | 2 | 4 | 8 | | | | | | | | | |
| Total Cost | \$72 | \$132 | \$252 | | | | | | | | | |
| 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 $y = mx + b$. | Yes, linear. $y = 30x + 12$ | | | | | | | | | | |
| 10. | In the questions above, find the cost of 7 tickets. | \$222 | | | | | | | | | | |
| 11. | <p>Why is this not a function?</p>  <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> | B | | | | | | | | | | |
| 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>  <p>A (3.5, 4) B (9, 3) C (6, 5.25) D (7, 5)</p> | D | | | | | | | | | | |

| 13. | <p>List all the items below which are functions.</p> <p>A $y = 6x + 3$</p> <p>B $(2,2), (3,1), (-2,-2), (4,1), (3,0)$</p> <p>C </p> <p>D</p> <table border="1" data-bbox="240 457 1076 537"> <thead> <tr> <th>Input</th> <td>3</td> <td>6</td> <td>9</td> <td>3</td> </tr> <tr> <th>Output</th> <td>1</td> <td>8</td> <td>2</td> <td>4</td> </tr> </thead> </table> | Input | 3 | 6 | 9 | 3 | Output | 1 | 8 | 2 | 4 | A, C |
|--------|--|-------|-----|---|---|----|--------|----|---|----|---|------|
| Input | 3 | 6 | 9 | 3 | | | | | | | | |
| Output | 1 | 8 | 2 | 4 | | | | | | | | |
| 14. | <table border="1" data-bbox="508 583 974 777"> <thead> <tr> <th>x</th> <th>y</th> </tr> </thead> <tbody> <tr> <td>8</td> <td>1</td> </tr> <tr> <td>12</td> <td>3</td> </tr> <tr> <td>18</td> <td>6</td> </tr> <tr> <td>20</td> <td>7</td> </tr> </tbody> </table> <p>Which equation best represents the relationship between x and y in the table above?</p> <p>A $y = 0.5x - 3$ C $x = 2y - 6$ B $y = 0.5x - 6$ D $y = 2x - 3$</p> | x | y | 8 | 1 | 12 | 3 | 18 | 6 | 20 | 7 | A |
| x | y | | | | | | | | | | | |
| 8 | 1 | | | | | | | | | | | |
| 12 | 3 | | | | | | | | | | | |
| 18 | 6 | | | | | | | | | | | |
| 20 | 7 | | | | | | | | | | | |
| 15. | <p>Graph the system of linear equations below on a sheet of <i>graph paper</i>.</p> $y = -4x - 14$ $y = 3x$ <p>Which of the following is the solution to the system of equations?</p> <p>A $(2,6)$ C $(-2,-6)$ B $(4,-14)$ D $(4,3)$</p> | C | | | | | | | | | | |
| 16. | <p>Graph the equation $y = \frac{1}{2}x - 2$.</p>  | | | | | | | | | | | |

| | | |
|-----|---|---|
| 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> | C |
| 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> | A |
| 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> | D |
| 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> | B |
| 21. | <p>Which statement compares the data on these graphs?</p>   <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> | A |

| 22. | <p>A gym charges a membership fee plus an additional fee per yoga class. The table shows the linear relationship between the number of yoga classes taken and the total cost including the membership fee.</p> <table border="1" data-bbox="526 296 1112 562"> <thead> <tr> <th>Number of Yoga Classes</th> <th>Total Cost</th> </tr> </thead> <tbody> <tr> <td>6</td> <td>\$67.50</td> </tr> <tr> <td>8</td> <td>\$75.00</td> </tr> <tr> <td>10</td> <td>\$82.50</td> </tr> <tr> <td>14</td> <td>\$97.50</td> </tr> <tr> <td>20</td> <td>\$120.00</td> </tr> </tbody> </table> <p>What is the membership fee and what is the additional fee per yoga class?</p> | Number of Yoga Classes | Total Cost | 6 | \$67.50 | 8 | \$75.00 | 10 | \$82.50 | 14 | \$97.50 | 20 | \$120.00 | <p>Membership</p> <p>\$45.00</p> <hr/> <p>Add'l fee</p> <p>\$3.75</p> |
|------------------------|--|---|--------------|---|---------|---|---------|----|---------|----|---------|----|----------|---|
| Number of Yoga Classes | Total Cost | | | | | | | | | | | | | |
| 6 | \$67.50 | | | | | | | | | | | | | |
| 8 | \$75.00 | | | | | | | | | | | | | |
| 10 | \$82.50 | | | | | | | | | | | | | |
| 14 | \$97.50 | | | | | | | | | | | | | |
| 20 | \$120.00 | | | | | | | | | | | | | |
| 23. | By what amount does the value of Kelly's car decrease every year? | \$2,000 | | | | | | | | | | | | |
| 24. | What equation shows the relationship between y , the value of Kelly's car and x , the age of the car in years? | $y = -2000x + 25000$ | | | | | | | | | | | | |
| 25. | Which line has a slope of $\frac{1}{2}$ and a negative y-intercept? |  | D | | | | | | | | | | | |
| 26. | Find the equation of a line that fits the data shown in the graph below. |  | $y = 2x - 1$ | | | | | | | | | | | |
| 27. | A line has a slope of $m = 12$, and the point $(-2, 8)$ lies on the line. What is the equation of the line in slope-intercept form? | $y = 12x + 32$ | | | | | | | | | | | | |

| 28. | A line has a slope of $m = -\frac{3}{2}$, and the point $(-6, 2)$ lies on the line. What is the y-intercept of the line? | $b = -7$ | | | | | | | | | |
|-----------------|---|---|-------|-------|---|-----|------------|-------|-------|-------|-------|
| 29. | 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. | $y = -15x + 500$ | | | | | | | | | |
| | | $y = -35x + 800$ | | | | | | | | | |
| 30. | Graph the problem above on a sheet of <i>graph paper</i> . | | | | | | | | | | |
| 31. | In the problem above, when does Roy have more than Kim? | $x < 15$ weeks | | | | | | | | | |
| 32. | In the problem above, what does the intersection represent? | When they both have the same amount of money. | | | | | | | | | |
| 33. | Which equation below represents the relationship shown in the table? | | | | | | | | | | |
| | <table border="1" style="margin-left: auto; margin-right: auto;"> <tbody> <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> </tbody> </table> <p style="margin-left: 40px;"> 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 | C | |
| x | 0 | 1 | 3 | | | | | | | | |
| y | 5 | 7 | 11 | | | | | | | | |
| 34. | A sailboat rental company charges an initial fee plus an hourly rate to rent sailboats. The costs are shown in the table below. | | | | | | | | | | |
| | <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Number of Hours</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> </tr> </thead> <tbody> <tr> <th>Price (\$)</th> <td>22.50</td> <td>29.25</td> <td>36.00</td> <td>42.75</td> </tr> </tbody> </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 | | | | | | | |
| 35. | What is the initial fee to rent a sailboat? | \$15.75 | | | | | | | | | |
| 36. | What is the hourly rate to rent a sailboat? | \$6.75 | | | | | | | | | |
| 37. | 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 style="margin-left: 40px;"> A $T = 250q + 2300$ C $T = 2300q + 250$ B $T = 250q + 3600$ D $T = 3600q + 250$ </p> | A | | | | | | | | | |
| 38. | Jose deposited \$250 into his savings account. He then saved \$40 per month. Write an equation to show a , the amount in Jose's savings account after t months. | $a = 40t + 250$ | | | | | | | | | |