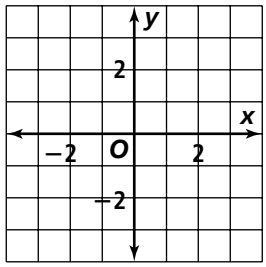
Name _____ Class _____ Date _____

Quarter 2 Test — Form G

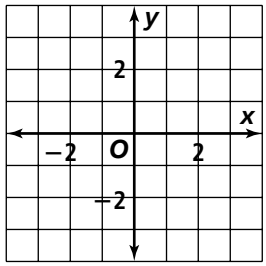
Chapters 4–6

Solve each system by graphing.

1. $y = -x + 5$
$y = 2x - 4$



2. $y > 5x + 1$
$y \leq -x + 3$



3. Solve the system using elimination.
$6x - 18y = 60$
$9x + 2y = 32$

Write a system of equations to model each situation. Solve by any method.

4. Lisa charges \$25 for private tutoring and \$18 for a group tutoring session. One day in January, Lisa earned \$265 from 12 students. How many students of each type did Lisa tutor?

5. A collection of quarters and nickels is worth \$1.25. There are 13 coins in all. How many of each coin are there?

6. Suppose a new animal species is introduced to an uninhabited island. The new species has an abundant food source and its population thrives.

Sketch a graph showing what the population of the species might look like over time.

7. Model the rule $f(x) = -\frac{1}{2}x + 3$ with a table and a graph.

8. The table shows a school district's enrollment for two successive years. Write a linear function using the data (with x representing the year number), and then use the model to predict the enrollment in Year 4.

Year 1	8295
Year 2	8072

9. Write an equation in point-slope form for the line through the point $(2, -7)$ with slope $m = -\frac{1}{3}$.

10. What is the range of the function $f(x) = x^2 + 1$, when the domain is $\{-6, 4, 8\}$?

Write a function rule to describe each statement.

11. the amount of money you earn babysitting at \$3.00 per hour

12. the amount of change $c(x)$ from a \$20 bill if you buy x pounds of pears for \$0.79 per pound

Write the equation of direct variation that includes the given point.

13. $(-6, 5)$

14. $(14, -28)$

Name _____ Class _____ Date _____

Quarter 2 Test (continued) Form G

Chapters 4–6

Find the next three terms of the arithmetic sequence.

15. 9, 12, 15, . . .

16. 288, 252, 216, . . .

Write each equation in slope-intercept form.

17. $-8y = 5x + 3$

18. $6x = 4y - 12$

Find the slope of the line passing through each pair of points.

19. (5, 2) and (7, 12)

20. (−1, 4) and (5, −5)

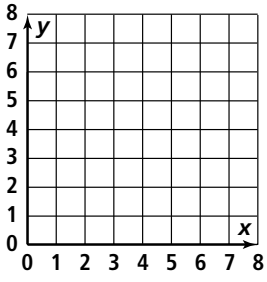
21. Find the x- and y-intercepts of the line $3x + 2y = 12$.

22. Write an equation in slope-intercept form for the line with slope $\frac{3}{5}$ and y-intercept -5.

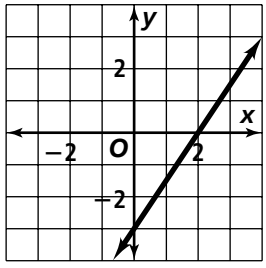
23. Write an equation in slope-intercept form of the line that passes through the given point and is parallel to the graph of the given equation. $(2, 5); 2x + 7y = 5$

24. Make a scatter plot of the data and describe the correlation.

x	1	5	4	3	2	4
y	7	4	4	3	5	5



25. Use the graph to find the slope and write the equation of the line.



26. Are the lines $y = -\frac{4}{3}x + 3$ and $4x + 3y = 1$ parallel, perpendicular, or neither?

27. Is (3, 10) a solution of $y \geq 5x - 8$? Explain why or why not.

28. Is the function shown by the table linear or nonlinear?

x	0	1	2	3
y	1	2	5	10

29. Write an equation for the line through (1, 3) and (4, 9) in standard form.

30. Suppose the school parents club compiled a cookbook. One company charges $750 to make a master copy and $25 for each additional copy. The total selling price depends on how many copies are ordered. Write a function rule and create a table of values to graph the rule. How much will you save per book by ordering 400 books instead of 100 books?