TEST NAME:**GPE.5**
TEST ID:**464104**
GRADE:**09 - 10**
SUBJECT:**Mathematics**
TEST CATEGORY:**My Classroom**

Read the passage - 'Designing a Hotel' - and answer the question below:

Designing a Hotel

Designing a Hotel

Yasmin is a high school student who wants to be an architect. A local architecture design firm is sponsoring a contest to design a new high-rise hotel building that will be located in the downtown area of the city in which Yasmin lives. The winner of the contest will earn an internship with the architecture firm, and Yasmin has decided to submit a design. She hopes that she will be able to learn more about architecture by creating the design and learn even more if she wins the internship.

Yasmin wants hotel guests to be able to see the city and enjoy the warm weather, so one of the first elements she puts in her design plan is a rooftop deck. She asks her friends at school what they like to do when they visit a hotel, and the most common response is to go swimming. Yasmin decides to combine the two ideas and put the hotel pool on the roof.

She also incorporates a café area so that people can eat while enjoying the view. Then, she adds an area between the café and the pool where people can sit at tables in sun chairs, admiring the city skyline.

YASMIN'S DESIGN OF THE HOTEL'S ROOFTOP DECK
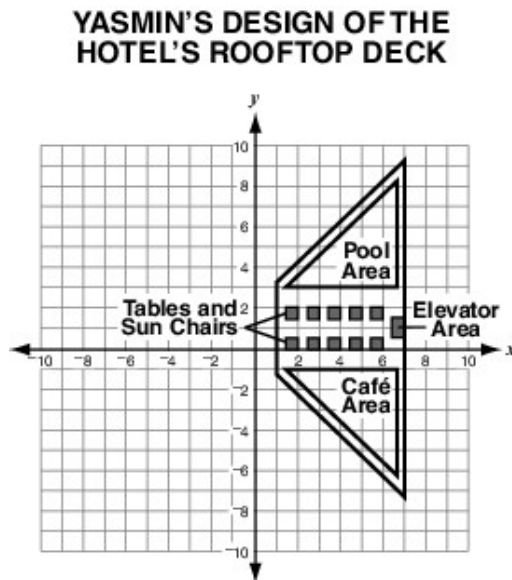
Another thing Yasmin wants is for her building to stand out among the other tall buildings downtown. She uses nonvertical supports to create an interesting pattern on the front of the building. The main structural supports will be inside and will not be visible from the outside.

YASMIN'S DESIGN OF THE FRONT OF THE HOTEL

= 10 square feet
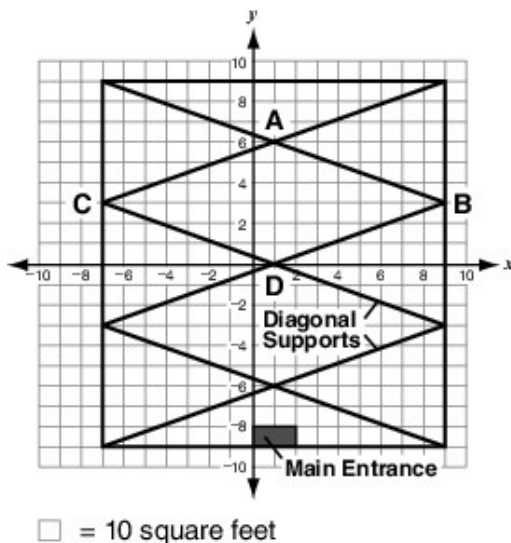
Lastly, Yasmin plans to cover most of the outside of the building with dark glass. This way, she thinks, the building will look shiny and modern, and all of the hotel's guests will be able to have a great view of the city from their rooms.

Yasmin submits her design plans to the contest before the deadline and waits anxiously to find out whether she has won. She knows that winning this contest could be the start of the career she's hoping for.

1. Read "Designing a Hotel" and answer the questions.

   From her study of architecture, Yasmin knows that diagonal bracing makes buildings more stable. She wants to make the building stronger. She likes the pattern the diagonal supports add to the front of the building, so she strategically places the diagonal supports on the front face of the hotel.

   Part A. What is the slope of the support passing through the points labeled *A* and *C*? What is the slope of the support passing through the points labeled *B* and *D*? Explain and show your work.

   Part B. Compare the slopes of these two supports. What does the slope tell you about the relationship between these two supports? Using slope, explain why this relationship must be true. How would the relationship between the supports change if the location of point *B* was moved up 1 unit on the grid? Explain.

   Use words, numbers, and/or pictures to show your work.

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2. Two electrical lines are parallel to each other. One of the lines is represented by the equation $^-4x + y = 8$. What is the slope of the other electrical line?

   A. 4

   B. $\dfrac{1}{4}$

   C. $^-\dfrac{1}{4}$

   D. $^-4$

3. Which is an equation of the line that passes through the point $(0, {}^-5)$ and is perpendicular to the graph of $y = 2x + 1$?

   A. $x - 2y = 10$

   B. $x + 2y = 10$

   C. $x + 2y = {}^-10$

   D. $x - 2y = {}^-10$

4. Which is an equation of a line that is parallel to $y = 3x + 6$ and passes through the point $({}^-1, 0)$?

   A. $y = 3x$

   B. $y = 3x + 3$

   C. $y = 3x - 1$

   D. $y = 3x - 6$

5. A triangle has the vertices $X(3, 1)$, $Y(6, 2)$, and $Z(4, 3)$. Which statement is true?

   A. Angle X is a right angle.

   B. Angle Y is a right angle.

   C. Angle Z is a right angle.

   D. None of the angles is a right angle.

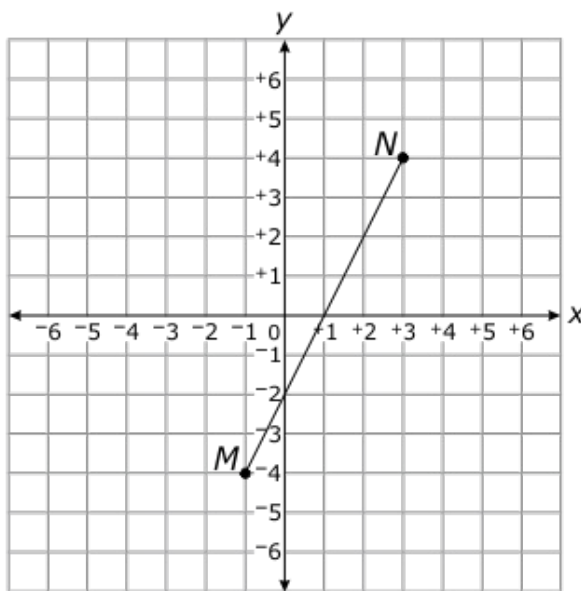6. Which equation is parallel to a line that passes through the points (4, ⁻5) and (2, 6)?

A. $y = \dfrac{2}{11}x + 15$

B. $y = \dfrac{^-2}{11}x - 17$

C. $y = \dfrac{^-11}{2}x + 15$

D. $y = \dfrac{11}{2}x + 17$

7. Which is an equation of a line perpendicular to segment *MN*?
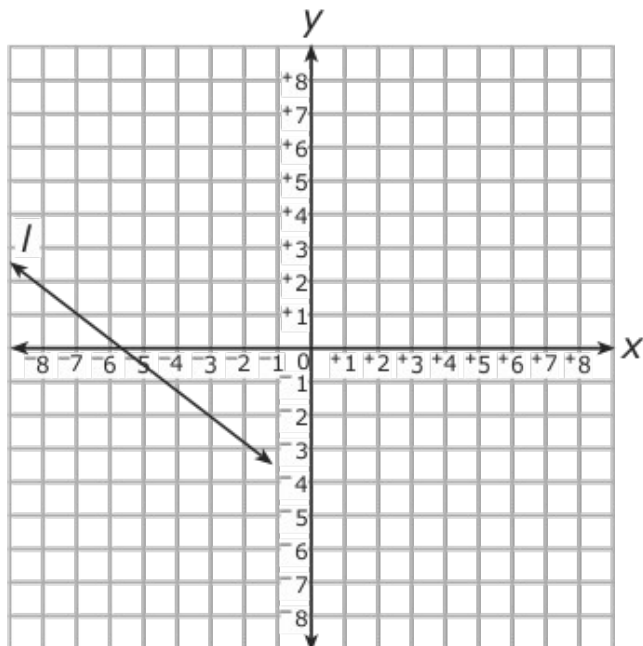

A. $2x - y = 3$

B. $x - 2y = 2$

C. $x + 2y = 17$

D. $^-2x + y = {}^-3$

8. Which is an equation of a line that is parallel to line *l* graphed below?

A. $y = \dfrac{^{-}4}{3}x + 5$

B. $y = \dfrac{^{-}3}{4}x + 6$

C. $y = \dfrac{4}{3}x - 2$

D. $y = \dfrac{3}{4}x - 1$

9. Triangle *EFG* is graphed on a coordinate axis. Angle *F* is a right angle. The slope of line segment *EF* is $\dfrac{^{-}4}{5}$. What is the slope of the line segment *FG*?

A. $\dfrac{5}{4}$

B. $\dfrac{4}{5}$

C. $\dfrac{^{-}4}{5}$

D. $\dfrac{^{-}5}{4}$

10. Which is an equation of the line that is parallel to the graph of $y = \frac{3}{4}x - 2$ and has a *y*-intercept of ⁻8?

    A   3*x* + 4*y* = 32

    B.   3*x* + 4*y* = ⁻32

    C.   3*x* − 4*y* = ⁻32

    D.   3*x* − 4*y* = 32

11. Which is an equation of a line that is parallel to the line that passes through the point (⁻2, 3) and (0, 2)?

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

    B. $y = \frac{1}{2}x + 1$

    C. $y = x + 3$

    D. $y = 2x - 4$

12. Line *k* passes through points (4, 3) and (8, 2). What is the slope of a line perpendicular to line *k*?

    A.   ⁻4

    B. $\frac{-1}{4}$

    C. $\frac{1}{4}$

    D.   4

13. What is the equation of a line passing through the point $(6, 2)$ that is perpendicular to the line $y = \frac{2}{3}x - 8$?

    A. $y = -\frac{3}{2}x + 11$

    B. $y = -\frac{2}{3}x + 6$

    C. $y = \frac{2}{3}x - 2$

    D. $y = \frac{3}{2}x - 7$

14. What is the equation of a line that is perpendicular to the line $y = \frac{j}{k}x + 9$?

A. $y = -\frac{k}{j}x + 3$

B. $y = -\frac{j}{k}x - \frac{1}{9}$

C. $y = \frac{j}{k}x + \frac{1}{9}$

D. $y = \frac{k}{j}x - 3$

15. Which point lies on the line that passes through (6, ⁻3) and is parallel to the graph of $y = \frac{^-1}{3}x + 9$?

A. $\left(\frac{^-1}{3}, 3\right)$

B. (3, ⁻12)

C. (3, ⁻2)

D. (9, ⁻2)

16. Two bridges are being built over a river. When graphed on a coordinate grid, Bridge One runs through (4, 4) and (7, 11). Bridge Two runs through (9, 17) and is parallel to Bridge One. Which equation represents Bridge Two?

A. $y - 4 = \frac{3}{7}(x - 4)$

B. $y - 17 = \frac{7}{3}(x - 9)$

C. $y - 9 = \frac{7}{3}(x - 17)$

D. $y - 17 = \frac{^-3}{7}(x - 9)$

17. Which is an equation of the line that passes through the point (1, 2) and is parallel to the graph of $2x + y = 3$?

    A. $y = 2x + 4$

    B. $y = {}^-2x + 4$

    C. $y = 2x - 4$

    D. $y = {}^-2x - 4$

18. $\triangle EFG$ is a right triangle. The measure of $\angle G$ is 90°. Vertices F and G are located at $F({}^-1, {}^-1)$ and $G(2, 3)$. What is the slope of $\overline{EG}$?

    A. $\dfrac{4}{3}$

    B. $\dfrac{{}^-4}{3}$

    C. $\dfrac{3}{4}$

    D. $\dfrac{{}^-3}{4}$

19. Which equation graphs a line parallel to $y = 2x + 1$ and has a y-intercept of $^-5$?

    A. $2x + y = {}^-5$

    B. $2x - y = {}^-5$

    C. $2x + y = 5$

    D. $2x - y = 5$

20. What is the equation of the line that is perpendicular to the line $y = -\dfrac{1}{2}(x-18)$ and intersects the y-axis at $(0, -1)$?

    A. $y = -\dfrac{1}{2}x - 1$

    B. $y = \dfrac{1}{2}x - 1$

    C. $y = 2x - 1$

    D. $y = -2x - 1$

21. What is the equation of a line perpendicular to $-x+2=y$ that intersects the line at $(-1.5, 3.5)$?

    A. $y=x+2$

    B. $y=x+5$

    C. $y=-x+2$

    D. $y=-x+5$

22. The graph of the equation $ax - y = 2$ is parallel to the graph of the equation $8x - 4y = 3$. What is the value of a?

    A. $^-2$

    B. $^-1$

    C. 1

    D. 2

23. **Parallel Lines, Perpendicular Distance**

Your task is to prove that if two lines have the same slope, then they are parallel. In addition, you will prove that if the two lines are parallel, then they have the same slope. Remember that if two lines are parallel, then the perpendicular distance between the two lines is always equal. You will either use a ruler and graph paper or dynamic graphing software.

Part A. Trace both sides of a ruler on graph paper or use your dynamic geometry software to create a model to illustrate that two parallel lines always have the same slope. (Remember that when we say the lines are "parallel" we mean they are always the same distance apart, and distance is measured by the length of perpendicular line segments between the two parallel lines. You should construct your lines according to this definition.) Your model should include three different pairs of parallel lines. Explain the steps you took to create the model and whether your model illustrates the theorem "If two lines are parallel, they have the same slope."

Part B. On graph paper or with your dynamic geometry software, create two lines with the same slope. Show that even if you change the slope of both lines or the intercepts the two lines remain parallel. That is, the perpendicular distance between the two lines remains unchanged. Explain the steps you took to create the model and why your model illustrates the theorem "If two lines have the same slope, they are parallel."

For Parts C through E, consider the figure below. The length of $\overline{AC}$ is equal to the length of $\overline{BD}$ and the right angles are indicated. The segment *AD* is parallel to the x-axis. $\overline{EC}$ and $\overline{BF}$ are parallel to the y-axis.
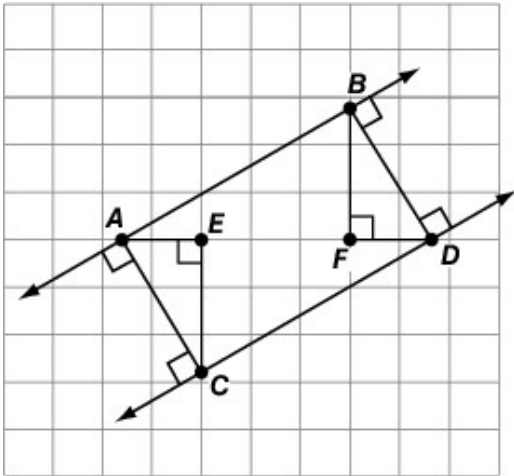
Part C. Explain how you know $\overline{AB}$ is parallel to $\overline{CD}$.

Part D. Prove that triangle *ABD* is congruent to triangle *DCA.* You may use the Pythagorean theorem.

Part E. Prove that triangle *BFA* is congruent to triangle *CED.* Use this fact to explain why $\dfrac{y_B - y_A}{x_B - x_A} = \dfrac{y_D - y_C}{x_D - x_C}$,where $\left(x_A, y_A\right)$ are the coordinates of point A.

Part F. Your next task is to prove that if two lines are perpendicular, their slopes are negative reciprocals. That is, $\overline{AB} \perp \overline{CD} \rightarrow \text{slope } \overline{AB} = -\dfrac{1}{\text{slope } \overline{CD}}$.

If you are using graph paper, use your protractor to draw three different examples of perpendicular lines. Determine the slopes of your pairs of perpendicular lines. Explain why your illustrations either contradict or support the claim that the slopes of perpendicular lines are negative reciprocals.

If you are using software, use it to graph two perpendicular lines. Then, use your software to illustrate that the slopes of these lines are always negative reciprocals of each other regardless of where they are on the coordinate plane. Explain your illustration.

Part G. If you are using graph paper, draw three pairs of lines with slopes that are negative reciprocals of each other. Use your protractor to determine whether the lines are perpendicular. Explain whether your illustrations support or contradict the statement that any two lines with slopes that are negative reciprocals of each other are perpendicular.

If you are using software, use it to test the converse, that any two lines

with slopes that are negative reciprocals of each other are perpendicular. (Note: You will have to create one parameter to represent the slope of the first line and a second parameter to represent the slope of the second line. The second parameter will be defined as $-1 \times (\text{first parameter})^{-1}$. Explain your illustration.

Use the figure below to answer parts H, I, and J. Segment *CB* is parallel to the x-axis. Segment *DA* is parallel to the y-axis. Right angles are indicated.
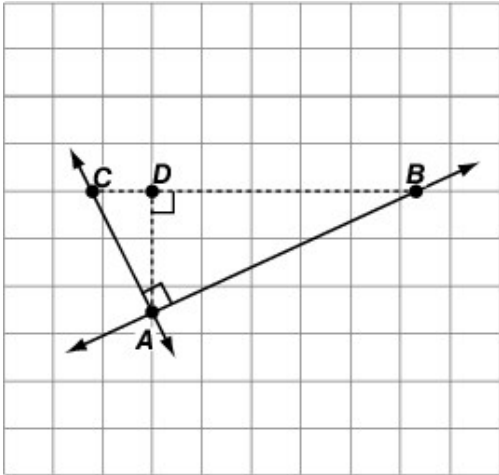
Part H. Explain why the following statements are **true**.

$$AD = y_B - y_A = -\left(y_A - y_C\right)$$

$$CD = x_A - x_C$$

$$DB = x_B - x_A$$

Why might these relationships be useful in proving that the slopes of lines *AC* and *AB* are negative reciprocals of each other?

Part I. Show that triangle *DBA* is similar to triangle *DAC*.

Part J. How can you use your results from part H and part I to prove that the slopes of two perpendicular lines are the negative reciprocals of each other?

24. A line segment has the endpoints at $X(^-6, 7)$ and $Y(4, 9)$. Which coordinates are endpoints for a line segment perpendicular to XY?

   A. (3, 10) and (4, 5)

   B. (2, 7) and (1, 2)

   C. (1, 3) and (6, 4)

   D. (12, 3) and (7, 4)

25. What is the slope of a line that is parallel to the graph of $y = \frac{5}{9}x + 5$?

   A. $\dfrac{^-9}{5}$

   B. $\dfrac{9}{5}$

   C. $\dfrac{^-5}{9}$

   D. $\dfrac{5}{9}$

26. What is the equation of a line parallel to $3x + 4 = y$ and passing through $(4, -2)$?

   A. $3x + 10 = y$

   B. $3x - 14 = y$

   C. $-\dfrac{1}{3}x - \dfrac{2}{3} = y$

   D. $-\dfrac{1}{3}x + \dfrac{10}{3} = y$

27. Which is an equation of a line perpendicular to the graph of $3x - 4y = 9$?

   A. $^-3x - 4y = 18$

   B. $8x + 6y = 7$

   C. $6x + 8y = ^-1$

   D. $9x - 12y = 5$

28. Which is an equation of a line that is perpendicular to the graph of
$y = \frac{2}{7}x - 5$?

A. $y = \frac{7}{2}x - 5$

B. $y = \frac{-7}{2}x + 4$

C. $y = \frac{2}{7}x + 6$

D. $y = \frac{7}{2}x - 3$

29. Which is an equation of the line that is parallel to $7x + 2y = 6$ and passes through the point (2, 3)?

A. $7x + 2y = 20$

B. $^-2x + 7y = 10$

C. $2x + 7y = 10$

D. $7x + 2y = ^-10$

30. What is the slope of a line that is parallel to the y-axis?

A. $^-1$

B. 0

C. 1

D. undefined

31. Which choice is an equation of the line that passes through the point ($^-2$, $^-1$) and is parallel to the graph of $y = \frac{5}{3}x - 7$?

A. $5x - 3y = 7$

B. $5x - 3y = ^-7$

C. $5x - 3y = ^-11$

D. $5x - 3y = 11$

32. Which is an equation of a line that is perpendicular to the graph of $9x - 3y = {}^-10$?

    A. $3x - y = 10$

    B. $4x + 12y = 11$

    C. $5x - 15y = 6$

    D. $6x + 2y = 9$

33. Which equation of a line is parallel to the graph of $y = 3x - 5$ and passes through the point $(1, 5)$?

    A. $y = 3x + 2$

    B. $y = 3x - 14$

    C. $y = -\dfrac{1}{3}x + \dfrac{8}{3}$

    D. $y = -\dfrac{1}{3}x + \dfrac{16}{3}$

34. Which is an equation of the line that passes through the point $\left(\dfrac{{}^-1}{2}, \dfrac{2}{5}\right)$ and is parallel to the graph of $y = \dfrac{1}{3}x - 4$?

    A. $10x - 30y = {}^-17$

    B. $10x - 30y = 17$

    C. $30x + 10y = 11$

    D. $30x + 10y = {}^-11$

35. Which of these is an equation of a line that is perpendicular to $y = 3x + 2$?

    A. $y = 3x + 5$

    B. $y = -3x + 2$

    C. $3y = -x + 6$

    D. $3y = x + 6$

36. What is the equation of a line that passes through the point $(4, 1)$ and is parallel to the line $2x - y = 4$?

   A. $y = 2x + 2$

   B. $y = 2x - 7$

   C. $y = -2x + 6$

   D. $y = -2x + 9$

37. Which is an equation of the line that passes through the point (2, 0) and is parallel to the graph of $y = {}^-4x + 1$?

   A. $y = {}^-4x + 2$

   B. $y = {}^-4x + 8$

   C. $y = \frac{1}{4}x - \frac{1}{2}$

   D. $y = \frac{1}{4}x + \frac{1}{2}$

38. What is the equation of the line, in slope-intercept form, that passes through $(-1, 5)$ and is parallel to $3x - 2y = 12$?

   A. $y = \frac{3}{2}x + \frac{13}{2}$

   B. $y = \frac{3}{2}x - \frac{17}{2}$

   C. $y = 3x + 8$

   D. $y = 3x - 16$

39. Which is an equation of the line parallel to $2y - 6x = {}^-2$ that passes through the point (2, ${}^-1$)?

   A. $y = 3x - 5$

   B. $y = 3x + 5$

   C. $y = 3x - 7$

   D. $y = 3x + 7$

40. A trapezoid *MNOP* with bases $\overline{MN}$ and $\overline{PO}$ is drawn on a coordinate plane. Three of the vertices of the trapezoid are $M(-5, 3)$, $N(1, 6)$, and $O(7, 4)$.

Part A. What is the equation of the line that contains $\overline{PO}$? Show your work and explain your steps.

Part B. If $\overline{MP} \perp \overline{PO}$, what is the equation of the line that contains $\overline{MP}$? Show your work and explain your steps.

Part C. Based on the equations you found in parts A and B, what are the coordinates of point *P*? Show your work and explain your steps.

Part D. What is the equation of the line containing $\overline{ON}$? What does the slope of this line tell you about how $\overline{ON}$ relates to the other sides of quadrilateral *MNOP*?

Use words, numbers, and/or pictures to show your work.

41. Which is an equation of the line that has a *y*-intercept of ⁻3 and is parallel to the graph of $y = \frac{3}{4}x + 3$?

   A. $3x - 4y = 12$

   B. $3x + 4y = 12$

   C. $3x + 4y = {}^-12$

   D. $3x - 4y = {}^-12$

42. Which is an equation of a line that is parallel to the graph of $y = \frac{2}{7}x - 5$?

   A. $y = {}^-5x + \frac{2}{7}$

   B. $y = \frac{{}^-7}{2}x + 4$

   C. $y = \frac{2}{7}x + 6$

   D. $y = \frac{7}{2}x - 5$

43. Which is an equation of the line that passes through the point ($^-$1, 2) and is parallel to the graph of $4x + 3y = 6$?

   A. $4x + 3y = 2$

   B. $^-3x + 4y = 2$

   C. $3x + 4y = 2$

   D. $4x + 3y = {}^-2$

44. Line m is perpendicular to the graph of $y = \dfrac{x}{2}$. What is the slope of line m?

   A. $^-2$

   B. $-\dfrac{1}{2}$

   C. $\dfrac{1}{2}$

   D. 2

45. Which choice is an equation of the line that passes through the point (1, $^-$1) and is parallel to the graph of $y = \dfrac{3}{5}x + 2$?

   A. $5x + 3y = 2$

   B. $3x - 5y = 8$

   C. $3x + 5y = {}^-2$

   D. $3x + 5y = 8$

Which is an equation of a line that is perpendicular to line *l* graphed below?
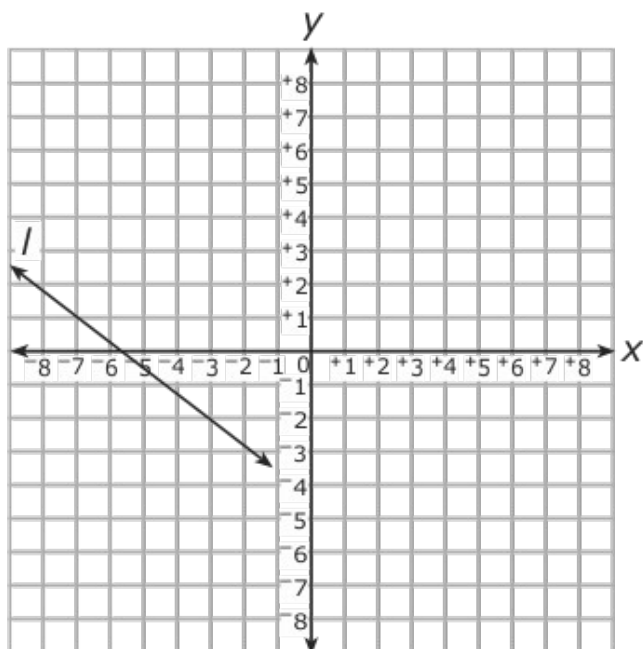
A. $3x - 4y = {}^-4$

B. $3x + 4y = {}^-36$

C. $4x - 3y = 6$

D. $4x + 3y = {}^-21$

47. When graphed on a coordinate plane, Main Street runs from (8, 11) to (4, 16). Oak Street runs perpendicular to Main Street and passes through (8, 12). Which equation represents Oak Street?

A. $y = \dfrac{{}^-5}{4}x + 9$

B. $y = \dfrac{4}{5}x + 5\dfrac{3}{5}$

C. $y = \dfrac{{}^-4}{5}x + 5\dfrac{3}{5}$

D. $y = \dfrac{5}{4}x + 9$

48. One side of rectangle *WXYZ* is shown on the coordinate plane.
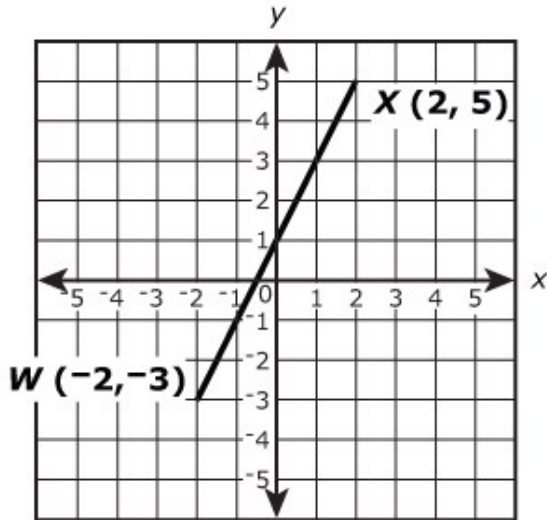
What is the equation, in slope-intercept form, of the line that contains $\overline{WZ}$?

A. $y = -\frac{1}{2}x - 4$

B. $y = -\frac{1}{2}x - \frac{7}{2}$

C. $y = 2x + 1$

D. $y = 2x + 4$

49. Two vertices of a parallelogram are (1, 3) and (11, 3). The height of the parallelogram is 5 units. Which could be the coordinates of the other two vertices if they are both in the fourth quadrant?

A. (3, ⁻2) and (13, ⁻2)

B. (3, ⁻6) and (13, ⁻6)

C. (5, 8) and (13, 8)

D. (⁻8, ⁻2) and (13, ⁻2)

50. Line FG goes through the points $(4, 9)$ and $(1, 3)$. Which equation represents a line that is perpendicular to FG and passes through the point $(2, 0)$?

A. $-2x + y = -4$

B. $-2x + y = 2$

C. $x + 2y = 2$

D. $x + 2y = 4$

51. Triangle *MNO* has vertices $M(2, {}^-1)$, $N(4, {}^-5)$, and $O(0, {}^-5)$. Segment *MP* represents the altitude of triangle *MNO*. Is triangle *MPO* a right triangle and why?

A. No, because the altitude is not perpendicular to the base.

B. Yes, because the altitude is perpendicular to the base.

C. No, because the slopes of the altitude and base are equal.

D. Yes, because the slopes of the altitude and base are equal.

52. What is the equation of a line passing through the point $(-4, 8)$ that is parallel to the line $y = 2x + 6$?

A. $y = -\frac{1}{2}x$

B. $y = \frac{1}{2}x + 10$

C. $y = 2x + 16$

D. $y = 2x - 20$

53. Use the figure below to answer the questions.
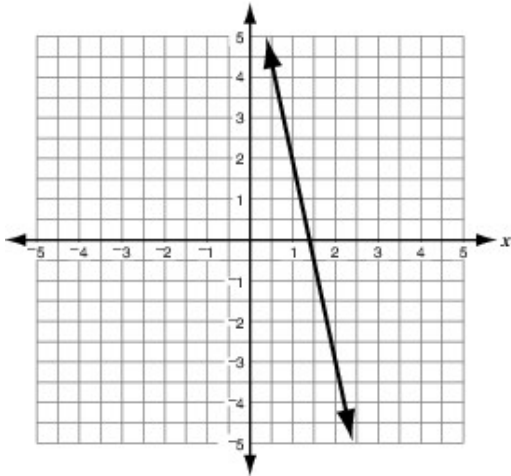
Part A. Find the equation of the line that is parallel to the given line and passes through the origin.

Part B. What is the equation of a line that passes through $(1, 2)$ and is perpendicular to the given line?

Use words, numbers, and/or pictures to show your work.

54. A triangle has vertices $G(2, 3)$, $H(0, 8)$, and $I(^-3, 1)$. Which statement is true?

   A. Angle G is a right angle.

   B. Angle H is a right angle.

   C. Angle I is a right angle.

   D. None of the angles is right angle.

55. Which is an equation of the line that passes through the point $(^-3, 4)$ and is parallel to the graph of $x + 3y = {}^-8$?

   A. $y = \dfrac{^-x}{3} + 3$

   B. $y = {}^-3x - 8$

   C. $y = 3x + 3$

   D. $y = \dfrac{x}{3} + 3$

56. Which pair of equations represents two perpendicular lines?

A. $y = -4x + 3$
$y = 4x - 3$

B. $y = -2x - 1$
$y = \dfrac{1}{2}x + 6$

C. $y = \dfrac{1}{5}x + 7$
$y = 5x - 2$

D. $y = \dfrac{2}{3}x - 4$
$y = \dfrac{2}{3}x + 2$

57. Parallelogram *RSTU* has vertices *R*(3, 5), *S*(6, 3), and *T*(3, 2). Which is an equation of side *RU*?

A. $y = {}^{-}3x + 14$

B. $y = 3x - 4$

C. $y = \dfrac{{}^{-}1}{3}x + 7$

D. $y = \dfrac{1}{3}x + 4$

58. The graph of *ax* + 5*y* = 9 is perpendicular to the graph of 5*x* + *y* = ⁻8. What is the value of *a*?

A. ⁻1

B. $\dfrac{{}^{-}1}{5}$

C. 1

D. 5

59. Which equation can be used to graph the line that passes through $(6, 15)$ and is perpendicular to the graph of $3x - 6y = 15$?

A. $y = \dfrac{1}{2}x + 5$

B. $y = \dfrac{1}{2}x + \dfrac{5}{2}$

C. $y = -2x + 27$

D. $y = -2x + 36$

60. What is the slope-intercept form of the equation of the line that is parallel to the line $y = 3x + 12$ and passes through the point $(4, 5)$?

61. What is an equation of the line that passes through the point $(1, {}^{-}2)$ and is parallel to the graph of $y = 4x - 3$?

A. $y = \dfrac{1}{4}x + 2$

B. $y = 4x + 2$

C. $y = \dfrac{1}{4}x - 6$

D. $y = 4x - 6$

62. Which is an equation of a line perpendicular to the graph of $x - (3y + 2) = 4$?

A. $y = {}^{-}\dfrac{1}{3}x + 4$

B. $y = {}^{-}3x + 1.5$
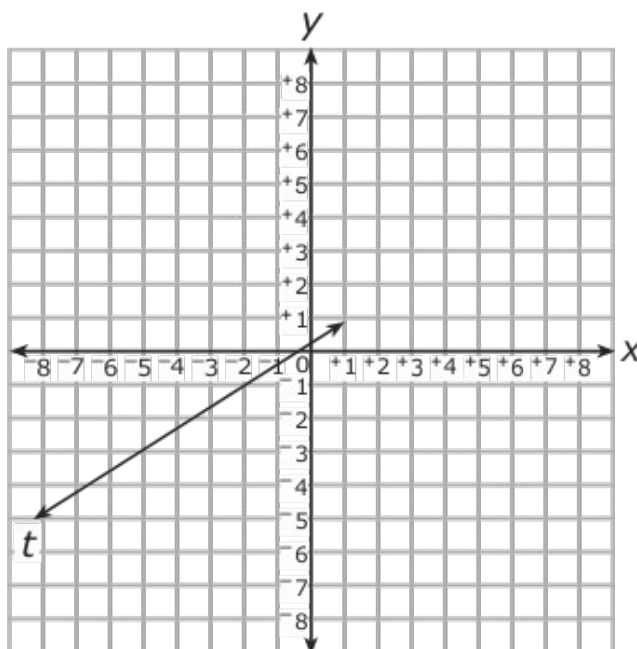
C. $y = 3x + 2$

D. $y = \dfrac{1}{3}x + 5$

63. The graphs of $y = kx + 5$ and $2y = (k + 4)x - 1$ are parallel. What is the value of k?

A. $^-1$

B. 2

C. 4

D. 5

64. What is the equation of a line passing through the point $(8, 6)$ that is parallel to the line $y = 1$?

A. $x = 8$

B. $y = 6$

C. $y = x + 6$

D. $y = x + 8$

65. Which is an equation of a line that is perpendicular to line t on the graph below?

A. $2x - 3y = {}^-9$

B. $3x + 2y = 18$

C. $2x + 3y = 21$

D. $3x - 2y = {}^-2$

66. A line perpendicular to the graph of $2x + 3y = 9$ passes through the point $({}^-2, 8)$. What is the **approximate** coordinates where the two lines intersect?

A. $({}^-3.7, 5.5)$

B. $({}^-2.3, 7.5)$

C. $({}^-1.2, 2.2)$

D. $(1.2, 2.2)$

67. Side WX of rectangle $WXYZ$ lies on the line $y = \frac{2}{3}x + 1$. If point Z is located at $(-6, 4)$, what is the equation of the line on which side WZ lies?

A. $y = -\frac{3}{2}x$

B. $y = \frac{2}{3}x + 8$

C. $y = -\frac{3}{2}x - 5$

D. $y = \frac{2}{3}x - \frac{26}{3}$

68. One leg of a right triangle has a slope of $^-5$. What is the slope of the other leg?

A. $^-5$

B. $^-\frac{1}{5}$

C. $\frac{1}{5}$

D. 5

69. Which is an equation of a line perpendicular to the graph of $2x - 3y = 17$?

A. $2x - 3y = 7$

B. $3x - 2y = 17$

C. $4x + 6y = 19$

D. $6x + 4y = 9$