|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. Determine whether , , and lie on a straight line.   |  |  |  | | --- | --- | --- | |  | a. | yes | |  | b. | no |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 2. Use the intercept form of an equation of a line to find an equation of a line with the *x*-intercept 9 and the *y*-intercept 4.   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 3. Use the intercept form of an equation of a line to find an equation of a line with the *x*-intercept and the *y*-intercept .   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | e | |

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| 4. Given that the point lies on the line , find *k*.   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 5. Given that the point *P*(-2, 6) lies on the line -2*x + ky* + 5 = 0, find *k*.   |  |  |  | | --- | --- | --- | |  | a. | *k* = | |  | b. | *k* = | |  | c. | *k* = | |  | d. | *k* = | |  | e. | *k* = –3 |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 6. If the line passing through the points and is parallel to the line passing through the points and , what is the value of *a*?   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 7. Write the equation in the slope-intercept form and then find the slope and *y*-intercept of the corresponding line.   |  |  |  | | --- | --- | --- | |  | a. | , , | |  | b. | , , | |  | c. | , , | |  | d. | , , |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 8. Metro Department Store's annual sales (in millions of dollars) during the past 5 yr were   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **Annual Sales,** *y* | 5.8 | 6.2 | 7.2 | 8.2 | 8.8 | | **Year,** *x* | 1 | 2 | 3 | 4 | 5 |   Derive an equation of the line *L* through the points corresponding to the first and fifth years.   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 9. If the slope of the line *L*1 is positive, then the slope of a line *L*2 perpendicular to *L*1 may be positive or negative?   |  |  |  | | --- | --- | --- | |  | a. | positive | |  | b. | negative |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 10. Using data compiled by the Admissions Office at Faber University, college admissions officers estimate that 56% of the students who are offered admission to the freshman class at the university will actually enroll. If the desired freshman class size for the upcoming academic year is 840 students, how many students should be admitted?   |  |  |  | | --- | --- | --- | |  | a. | 1,200 | |  | b. | 1,500 | |  | c. | 900 | |  | d. | 1,350 | |  | e. | 1,050 |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 11. Determine whether the points *A*(-2, 9), *B*(4, -1), and *C*(7, -6) lie on a straight line.   |  |  |  | | --- | --- | --- | |  | a. | no | |  | b. | yes |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 12. Find an equation of the line in general form that passes through the point (2, 7) and is perpendicular to the line 5*x* + 6*y* - 9 = 0.   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 13. Find an equation of the line in general form that passes through the point (- 9, 5) and is parallel to the line 2*x* - 3*y* - 8 = 0.   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 14. Find an equation of the line that parallel to the *x*-axis and 8 units below it.   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 15. Find an equation of the line that parallel to the *y*-axis and 8 units left of it.   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 16. Writing the equation in the slope intercept form, find the slope of the line.   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 17. Writing the equation 3*x* - 4*y* + 6 = 0 in the slope intercept form, find the slope of the line.   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. | 1 | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 18. Find an equation of the line that has slope *m* = 5 and *y*-intercept *b* = 5.   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 19. Find an equation of the line that passes through the points (1, 3) and (4, 30).   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 20. Find an equation of the line that passes through the point (5, -8) and has the indicated slope *m* = 3.   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | e | |

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| 21. Find an equation of the horizontal line that passes through (-3, -5).   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 22. Find an equation of the vertical line that passes through (2, 3).   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 23. If the line passing through the points (2, *a*) and (3, –7) is parallel to the line passing through the points (8, 9) and (–1, *a* + 8), what is the value of *a*?   |  |  |  | | --- | --- | --- | |  | a. | –8 | |  | b. | –12 | |  | c. | –5 | |  | d. | –10 | |  | e. | –7 |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 24. Determine whether the line through each pair of points is perpendicular.  *A(*2, 8), *B*(6, 6) and *C*(–2, –6), *D*(1, –1)   |  |  |  | | --- | --- | --- | |  | a. | perpendicular | |  | b. | not perpendicular |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 25. Determine whether the line through each pair of points is parallel.  *A*(1, -1), *B*(-3, –9) and *C*(1, 5), *D*(-2, –4).   |  |  |  | | --- | --- | --- | |  | a. | not parallel | |  | b. | parallel |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 26. Given the equation 5*x* + 7*y* = 6, if *x* decreases by 4 units, what is the corresponding change in *y*?   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 27. Find the slope of the line that passes through points (*a* - 1, *b* - 1) and (*a* + 1, *b* + 7).   |  |  |  | | --- | --- | --- | |  | a. | 1 | |  | b. | 6 | |  | c. | 4 | |  | d. | 5 | |  | e. | 8 |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 28. Find the slope of the line that passes through points and .   |  |  |  | | --- | --- | --- | |  | a. | 5 | |  | b. | 0 | |  | c. | 3 | |  | d. | 2 | |  | e. | –2 |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 29. Find the slope of the line shown in the figure.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. | - 1 | |  | c. | 5 | |  | d. | 1 | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 30. Find the slope of the line shown in the figure.   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. | 3 | |  | c. | 1 | |  | d. | - 3 | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | e | |

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| 31. Given the graph of a line, which of the following statements is true?   |  |  |  | | --- | --- | --- | |  | a. | The slope of the line is negative, and its *y*-intercept is positive. | |  | b. | The slope of the line is negative, and its *y*-intercept is negative. | |  | c. | The slope of the line is positive, and its *y*-intercept is negative. | |  | d. | The slope of the line is positive, and its *y*-intercept is positive. | |  | e. | The slope of the line is zero. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| --- | --- | --- |
| 32. If the line passing through the points (*a*, 1) and (5, 7) is parallel to the line passing through the points (1, 6) and (*a* + 1, 3), what is the value of *a*?  *a* = \_\_\_\_\_\_\_\_\_\_   |  |  | | --- | --- | | *ANSWER:* | -5 | |

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| --- | --- | --- |
| 33. Given that the point lies on the line *kx* + 10*y* + 4 = 0, find *k*.  *k* = \_\_\_\_\_\_\_\_\_\_   |  |  | | --- | --- | | *ANSWER:* | 37 | |

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| 34. Find the slope of the line shown in the figure.    *m* = \_\_\_\_\_\_\_\_\_\_   |  |  | | --- | --- | | *ANSWER:* | -3 | |

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| --- | --- | --- |
| 35. If the line passing through the points (2, *a*) and (4, –3) is parallel to the line passing through the points (6, 5) and (1, *a* + 2), what is the value of *a*?  *a =* \_\_\_\_\_\_\_\_\_\_   |  |  | | --- | --- | | *ANSWER:* | -7 | |

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| --- | --- | --- |
| 36. Find the slope of the line that passes through points (*a* - 3, *b* - 2) and (*a* + 1, *b* + 2).  *m* = \_\_\_\_\_\_\_\_\_\_   |  |  | | --- | --- | | *ANSWER:* | 1 | |

|  |  |  |
| --- | --- | --- |
| 37. Find the slope of the line that passes through points and .  *m* = \_\_\_\_\_\_\_\_\_\_   |  |  | | --- | --- | | *ANSWER:* | 2 | |

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| --- | --- | --- |
| 38. Use the intercept form of an equation of a line to find an equation of a line with the *x*-intercept 9 and the *y*-intercept 4.   |  |  | | --- | --- | | *ANSWER:* |  | |

|  |  |  |
| --- | --- | --- |
| 39. Find the slope of the line shown in the figure.   |  |  | | --- | --- | | *ANSWER:* |  | |

|  |  |  |
| --- | --- | --- |
| 40. Find an equation of the line that passes through the point (8, 6) and is perpendicular to the line  7*x* + 4*y* - 7 = 0.   |  |  | | --- | --- | | *ANSWER:* |  | |

|  |  |  |
| --- | --- | --- |
| 41. Find an equation of the line that passes through the point (- 9, 9) and is parallel to the line  4*x* - 9*y* - 9 = 0.   |  |  | | --- | --- | | *ANSWER:* |  | |

|  |  |  |
| --- | --- | --- |
| 42. Find an equation of the line that is parallel to the *x*-axis and 7 units below it.   |  |  | | --- | --- | | *ANSWER:* | *y* = - 7 | |

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| --- | --- | --- |
| 43. Find an equation of the line that has slope *m* = 4 and *y*-intercept *b* = 3.   |  |  | | --- | --- | | *ANSWER:* | *y* = 4*x* + 3 | |

|  |  |  |
| --- | --- | --- |
| 44. Find an equation of the line that passes through the points (9, 8) and (8, 2).   |  |  | | --- | --- | | *ANSWER:* |  | |

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| --- | --- | --- |
| 45. Find an equation of the line that passes through the point (4, -8) and has the slope *m* = 3.   |  |  | | --- | --- | | *ANSWER:* |  | |

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| --- | --- | --- |
| 46. Find an equation of the horizontal line that passes through (-1, -9).   |  |  | | --- | --- | | *ANSWER:* | *y* = -9 | |

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| --- | --- | --- |
| 47. Determine whether *A*(- 2, 1), *B*(1, 1), and C(4, 2) lie on a straight line. Answer *yes* or *no*.   |  |  | | --- | --- | | *ANSWER:* | no | |

|  |  |  |
| --- | --- | --- |
| 48. If the slope of the line *L*1 is negative, then the slope of a line *L*2 perpendicular to *L*1 may be *positive* or *negative*?   |  |  | | --- | --- | | *ANSWER:* | positive | |

|  |  |  |
| --- | --- | --- |
| 49. Determine whether the points *A*(–3, 6), *B*(1, –4), and *C*(9, –24) lie on a straight line. Answer *yes* or *no*.   |  |  | | --- | --- | | *ANSWER:* | yes | |

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| --- | --- | --- |
| 50. Determine whether the line through each pair of points is perpendicular. Answer *perpendicular* or *not perpendicular.*  A(3, 10), B(9, 7) and C(–2, –13), D(2, –4)   |  |  | | --- | --- | | *ANSWER:* | not perpendicular | |

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| --- | --- | --- |
| 51. Determine whether the line through each pair of points is parallel. Answer *parallel* or *not parallel.*  *A*(1, -3), *B*(-2, –9) and *C*(1, 5), *D*(-1, –1)   |  |  | | --- | --- | | *ANSWER:* | not parallel | |

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| Match the statement with one of the graphs.  *Choose the correct letter for each question.*   |  |  | | --- | --- | | a. | The slope of the line is undefined. | | b. | The slope of the line is positive, and its *y*-intercept is positive. | | c. | The slope of the line is positive, and its *y*-intercept is negative. | | d. | The slope of the line is zero. | |

|  |  |  |
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| 52.   |  |  | | --- | --- | | *ANSWER:* | a | |

|  |  |  |
| --- | --- | --- |
| 53.   |  |  | | --- | --- | | *ANSWER:* | c | |

|  |  |  |
| --- | --- | --- |
| 54.   |  |  | | --- | --- | | *ANSWER:* | d | |

|  |  |  |
| --- | --- | --- |
| 55.   |  |  | | --- | --- | | *ANSWER:* | b | |