

Points & Lines

No Work $\Leftrightarrow$ No Points

Use Pencil Only $\Leftrightarrow$ Be Neat & Organized

Instructions:

- Plot both points A and B , and then Draw the line segment $\overline{AB}$.
 - Find and plot the midpoint M of the line segment $\overline{AB}$.
 - Find the distance d between the points A and B .
 - Find the slope of the line segment $\overline{AB}$.
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1. $A(-3, 2)$ & $B(5, 6)$

3. $A(6, 0)$ & $B(0, -4)$

2. $A(-5, -2)$ & $B(1, -6)$

4. $A(4, -4)$ & $B(-8, 1)$

Instructions:

- Graph both lines in the same coordinate system using the intercepts method.
 - Clearly label all intercepts on the graph.
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5. $x + y = 4$ & $x - y = 2$

9. $x - 3y = 6$ & $x + 2y = -6$

6. $2x - 3y = -12$ & $3x + 4y = -12$

10. $2x + y = 4$ & $2x + y = -6$

7. $x - 2y = 4$ & $4x + y = -4$

11. $4x - 3y = 12$ & $3x + 4y = 12$

8. $5x + 6y = 30$ & $6x - 5y = -30$

12. $5x - 2y = 10$ & $2x + 5y = 10$

Instructions:

- Graph both lines in the same coordinate system.
 - Clearly label and mark their intersection points, if there is any.
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13. $x = 4$ & $y = -3$

15. $x = -2$ & $x = 3$

14. $x = -2$ & $y = 4$

16. $y = 4$ & $y = -1$

Instructions:

- Identify slope and y-intercept for each line.
 - Graph both lines in the same coordinate system using slope and y-intercept.
 - Write down if lines are parallel, perpendicular, or neither.
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17. $y = 2x + 4$ & $y = 2x - 2$

21. $y = \frac{3}{5}x - 4$ & $y = \frac{-5}{3}x + 6$

18. $y = 4x$ & $y = \frac{-1}{4}x$

22. $y = x$ & $y = x + 3$

19. $y = \frac{2}{3}x - 2$ & $y = \frac{-3}{2}x + 3$

23. $y = \frac{-2}{5}x + 2$ & $y = \frac{-5}{2}x + 5$

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

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

Instructions:

- Identify slope and one point for each line.
 - Graph each line using slope and one point.
 - Write down if the line is increasing, or decreasing.
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25. $y + 2 = 2(x + 3)$

28. $y + 5 = \frac{4}{5}(x + 1)$

26. $y - 3 = -3(x - 1)$

29. $y = \frac{-2}{3}(x + 3)$

27. $y + 4 = \frac{-3}{2}(x - 2)$

30. $y - 4 = \frac{-5}{2}x$

Instructions:

- Isolate the y variable first, and write your answer in slope-Intercept form $y = mx + b$.
 - Identify slope and y -intercept.
 - Graph using the y -intercept and slope.
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31. $x + 2y = 4$

37. $-3x - 7y = 14$

32. $x - 2y = 6$

38. $x - y = 0$

33. $3x + 4y = -8$

39. $x + y = 0$

34. $2x - 3y = -9$

40. $2x + 5y = 0$

35. $2x + 5y = 10$

41. $5x - 2y = 0$

36. $x - 5y = 10$

Instructions:

- Graph and shade the solution for the following linear inequalities.
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42. $3x + 2y \geq -6$

47. $y \leq \frac{1}{4}x + 2$

43. $y < 4$

48. $x \geq -3$

44. $y \geq -3$

45. $y > \frac{3}{4}x - 3$

49. $x < 3$

46. $y < \frac{-4}{3}x + 4$

50. $y \neq -\frac{2}{5}x - 1$
