

Name: _____

Due Date: _____

Teacher: _____

Parent Sign: _____

2. Plot $(-1, 4)$, $(0, 3)$, $(1, 2)$, $(2, 1)$. What direction does the pattern move on the coordinate plane? What is the next point?
3. The points $(0,0)$, $(1,2)$, $(2,4)$, $(3,6)$ are graphed. Do these points form a straight line? Explain why and give the next point.
4. Plot $(2, 0)$, $(2, 1)$, $(2, 2)$, $(2, 3)$. What kind of line is this (horizontal, vertical, or diagonal)? What would be the next point?
5. The points $(0,5)$, $(1,5)$, $(2,5)$, $(3,5)$ are graphed. Describe the pattern and name the next point.
6. Plot $(0,0)$, $(1,1)$, $(2,4)$, $(3,9)$. What pattern do the y-values follow? Predict the y-value when $x = 4$.
7. Points plotted: $(0,6)$, $(1,4)$, $(2,2)$, $(3,0)$. Write a rule in words that describes how to get y from x. What is the next point?
8. Plot $(-2, -4)$, $(-1, -2)$, $(0, 0)$, $(1, 2)$. Describe the relationship between x and y. What is the point for $x = 2$?
9. The points $(1, 3)$, $(2, 6)$, $(3, 9)$, $(4, 12)$ are graphed. Is there a constant multiplier between x and y? State it and give the point when $x = 5$.
10. Plot $(0, 0)$, $(1, -1)$, $(2, -2)$, $(3, -3)$. What direction does the line go? What is the point at $x = 4$?
11. Plot $(0, 2)$, $(1, 5)$, $(2, 8)$, $(3, 11)$. How much does y increase when x increases by 1? What rule describes this relationship?
12. The points $(0,0)$, $(2,1)$, $(4,2)$, $(6,3)$ are graphed. Describe how x and y are related. What is the point when $x = 8$?
13. On a graph you see points at $(1,2)$, $(2,4)$, $(3,6)$, $(4,8)$. Which of these points would NOT be on the same pattern: $(5,10)$, $(6,12)$, $(5,11)$? Explain.
14. A set of points follows the rule "x increases by 1 and y decreases by 2." If the first point is $(0, 8)$, list the next four points.
15. Points forming a pattern are $(-3, 3)$, $(-2, 2)$, $(-1, 1)$, $(0, 0)$. Is the point $(1, -1)$ part of the pattern? Explain.
16. A line passes through $(0,4)$ and $(2,0)$. If the pattern is linear, what point will be at $x = 1$? (Hint: find how y changes as x changes.)
17. You are given points $(3,7)$, $(4,9)$, $(5,11)$. Predict the next two points and describe the rule.
18. On a coordinate grid, the points $(0,1)$, $(1,4)$, $(2,7)$ are plotted. What is the rule that links x to y? What point corresponds to $x = 3$?
19. A pattern of points is $(0, 10)$, $(1, 7)$, $(2, 4)$, $(3, 1)$. How much does y change when x increases by 1? What is the point for $x = 4$?
20. The points $(2,6)$, $(3,9)$, $(4,12)$, $(5,15)$ are plotted. If this continues, for what x will $y = 30$?
21. Plot the ordered pairs produced by rule "y = x + 2" for $x = 0, 1, 2, 3, 4$. (Write the ordered pairs.)
22. A rule says "y is 3 more than x." List the first five ordered pairs starting at $x = 0$.
23. Given the pairs $(2, 8)$, $(3, 12)$, $(4, 16)$, what is the pattern between x and y? What is y when $x = 6$?
24. Fill in the missing y in the set that follows a pattern: $(0, 5)$, $(1, 8)$, $(2, \underline{\quad})$, $(3, 14)$. What is the rule?
25. These ordered pairs are given: $(1, 2)$, $(2, 4)$, $(3, 7)$, $(4, 11)$. Is there a consistent rule? If yes, explain; if no, explain why not.

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26. Plot the points (0,0), (1,2), (2,6), (3,12). Describe how y changes relative to x. What is y when x = 4?
27. A table shows x ? y: 1 ? 5, 2 ? 9, 3 ? 13. What rule links x to y? What is y when x = 0?
28. Given the relationship "y = 2x - 1" (explain in words), list the ordered pairs for x = 0, 1, 2, 3.
29. A pattern on the coordinate plane goes through (-1, 0), (0, 2), (1, 4), (2, 6). What is the rule? Is (3, 8) part of the pattern?
30. The points (0, 4), (1, 7), (2, 10), (3, 13) are on a graph. If this is graphed, what would the slope-like change be (rise over run in whole numbers)?
31. You are given points that make a diagonal line up to the right: (-2, -1), (-1, 0), (0, 1), (1, 2). What is the rule in words? What point goes at x = 2?
32. A pattern of points: (0,0), (1,1), (2,1), (3,2), (4,3). Does y increase each time x increases? Describe the pattern of changes.
33. A sequence is graphed using rule "double x" ($y = 2x$). If x is 0, 1, 2, 3, 4, list the plotted points. Which point matches x = 5?
34. The points (1, 4), (2, 7), (3, 10), (4, 13) are plotted. What is the rule? If x = 10, what is y?
35. Which of these points are on the pattern $y = x - 2$: (0, -2), (3, 1), (5, 2), (2, 1)? Circle the correct ones (list them).
36. A pattern follows: x increases by 2 each time and y increases by 3 each time. If the first point is (0, 1), list the next four points.
37. Given ordered pairs (0, 2), (1, 6), (2, 18), (3, 54). Does this follow a simple linear rule? Explain briefly and describe the pattern.
38. A point sequence: (1,1), (2,4), (3,9), (4,16). What rule do the y-values follow? What is y when x = 5?
39. Graph this rule: for every increase of 1 in x, y increases by 4. Start at (0, 2) and list the first five points.
40. The pattern is "y is three times x plus 1." List ordered pairs for x = 0, 1, 2, 3.
41. A student plots (0,0), (1,3), (2,6), (3,9) and claims the rule is "y = x + 3." Is the student correct? Explain and give the correct rule in words.
42. The points (0, 5), (1, 8), (2, 11), (3, 14) are graphed. What is the y when x = 10?
43. You see points (2, 10), (3, 13), (4, 16), (5, 19). What is the rule? If x = 0, what is y?
44. Given points follow "subtract 1 from y when x increases by 1" starting at (0, 7). List the first six points.
45. The pattern is formed by these ordered pairs: (1, 3), (2, 5), (3, 7), (4, 9). Write the rule in words and list the point when x = 0.
46. A sequence relationship on the grid is shown by points: (0, 0), (1, 4), (2, 8), (3, 12). If this continues, what is y when x = 7?
47. If a pattern of ordered pairs is given by "y = x x x" ($y = x^2$), list the points for x = 0, 1, 2, 3, 4. Which of those points lie on a straight line?
48. Points are plotted: (-1, 5), (0, 3), (1, 1), (2, -1). Describe how y changes. What would be the point when x = 3?
49. A pattern on a coordinate grid has points (0, 100), (1, 90), (2, 80), (3, 70). Describe the rule and give the point when x = 5.



Math Worksheet for 5th Grade

Number patterns

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50. Your rule is: start at $(0, 1)$. For each increase of 1 in x , multiply y by 2. List the first five ordered pairs.