



Math Worksheet for 8th Grade

Intercepts

Name: _____

Due Date: _____

Teacher: _____

Parent Sign: _____

1. What is the definition of an x-intercept and a y-intercept?
2. A line passes through the origin. What are its x- and y-intercepts?
3. True or false? The y-intercept is where a graph crosses the x-axis.
4. Identify the x-intercept of the line $y = 2x + 6$.
5. Identify the y-intercept of the line $y = -3x + 9$.
6. For the equation $y = 4$, what are the intercepts (if any)?
7. For the equation $x = -2$, what are the intercepts (if any)?
8. Find both intercepts of the line given by $y = 0.5x - 4$.
9. Find both intercepts of the line given by $3x + 2y = 12$.
10. Find both intercepts of the line $2x - 5y = 0$.
11. Find the x-intercept of $y = -7$.
12. Find the y-intercept of the equation $5x + y = 20$.
13. A line has slope 3 and y-intercept 1. Write its equation and state the x-intercept.
14. Determine the x- and y-intercepts of the line $y = -x$.
15. For the line $6x - 3y = 9$, find both intercepts.
16. Given the equation $4x + 5y = 0$, find the x-intercept and y-intercept.
17. Find the intercepts of $y = (\frac{2}{3})x + 3$.
18. Find the intercepts for the line $x/4 + y/2 = 1$ (write both intercept points).
19. Which intercept(s) does the line $y = -2x$ have? Give coordinates.
20. A line passes through (3, 0) and (0, -4). State its equation and identify both intercepts.
21. From the equation $7x - y = 14$, find the x-intercept and the y-intercept.
22. Does the line $y = 0$ cross the x-axis and/or y-axis? Give intercepts.
23. The cost C (in dollars) to build a small object is modeled by $C = 15x + 40$, where x is the number of objects. What is the y-intercept and what is its practical meaning? What is the x-intercept and its meaning (if any)?
24. A taxi charges a flat fee of 3 plus 2 per mile. Write the cost function and find the intercepts. Interpret both intercepts.
25. From the equation $-2x + 4y = 8$, find both intercepts.
26. A line in slope-intercept form is $y = 0$. Explain its intercepts.
27. For the equation $y = 8x$, find the x-intercept and y-intercept.
28. Given the equation $0 = 5x + 0$ (i.e., $5x = 0$), what are the intercepts?
29. Find intercepts of the line with equation $y = -\frac{1}{4}x + 2$.
30. For the line $9x + 3y = 18$, find x- and y-intercepts.

Intercepts from a table



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31. Given the table: $(x,y) = (-2, -1), (-1, 0), (0, 1), (1, 2)$. What is the x-intercept and the y-intercept?

32. Given the table: $(x,y) = (-3, 0), (-1, 4), (0, 7), (2, 13)$. What are the intercepts?

33. Given the table: $(x,y) = (-2, 5), (0, 1), (2, -3), (4, -7)$. Find the x-intercept and y-intercept.

34. Table: $(x,y) = (-1, -2), (0, 0), (1, 2), (2, 4)$. What are the intercepts?

35. Table: $(x,y) = (-4, 0), (-2, 3), (0, 6), (2, 9)$. What is the x-intercept? y-intercept?

36. Table: $(x,y) = (-1, 5), (0, 3), (1, 1), (2, -1)$. Find intercepts.

37. Table: $(x,y) = (-3, 9), (0, 0), (3, -9)$. Find intercepts and describe what the table reveals.

38. Table: $(x,y) = (0, -2), (1, 1), (2, 4), (3, 7)$. What are the intercepts?

39. Table: $(x,y) = (-2, -6), (-1, -3), (0, 0), (1, 3)$. What intercepts are shown?

40. Table: $(x,y) = (-5, 10), (-2.5, 5), (0, 0), (2.5, -5), (5, -10)$. What are the intercepts?

Worked example: intercepts from an equation

41. Worked example: Find intercepts of $4x - 3y = 12$. Show steps (set $y=0$, set $x=0$).

42. Worked example: Find intercepts of $5x + 10y = 20$. Show steps.

43. Find intercepts of the line $y = \left(\frac{3}{2}\right)x - 6$. Show algebraic steps.

44. A line passes through $(0, 5)$ and has slope -5 . Write its equation and find the x-intercept.

45. The line $2x + 3y = -12$: find intercepts and explain if either intercept is negative.

46. A bicycle rental company charges 7 to rent a bike and 1.50 per hour riding. Let $C(h) = 1.5h + 7$. Find the y-intercept and interpret it. Find the x-intercept (if any) and interpret it.

47. Find the intercepts of the line whose equation is $y = -\frac{4}{5}x$.

48. Determine intercepts for the equation $12x - 6y = 24$.

49. If a line has x-intercept 8 and y-intercept 2 , write the equation in intercept form and then convert to standard form.

50. A swimmer's distance from the shore (in meters) is modeled by $D(t) = -3t + 30$, where t is minutes. Find the time when $D = 0$ and interpret the intercepts.