Rectangular Coordinates and Graph Reading

Rectangular coordinates, graph reading, circles, lines, scatter diagrams, and linear curve fitting review.

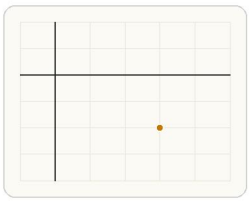
Name _____ Date _____

32 main | 2-up grid | 2 pages

Completion Reward

Shown here as a small pack artifact, not a preview destination.

1. What does the point (3, -2) tell you?



An ordered pair tells horizontal position first and vertical position second, so (3, -2) means right 3 and down 2.

A. Move 3 units right and 2 units down from the origin.
B. Move 2 units right and 3 units down from the origin.
C. Move 3 units left and 2 units up from the origin.
D. Move 2 units left and 3 units up from the origin.

2. What is always true at an x-intercept?

A. The x-value is 0.
B. The slope is 0.
C. The y-value is 0.
D. The graph is a function.

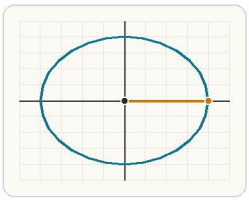
3. What is always true at a y-intercept?

A. The y-value is 0.
B. The slope is undefined.
C. The graph is horizontal.
D. The x-value is 0.

4. How does a line with positive slope move from left to right?

A. It falls.
B. It stays flat.
C. It must curve upward.
D. It rises.

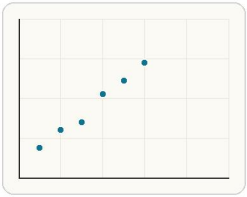
5. What does x^2 + y^2 = 16 represent?



The equation x^2 + y^2 = 16 represents every point whose distance from the origin is 4.

A. A circle centered at the origin with radius 4
B. A circle centered at (4, 4) with radius 4
C. A line through (4, 4)
D. A parabola opening upward

6. What does positive correlation mean in a scatter plot?



Positive correlation means larger x-values tend to occur with larger y-values in the data cloud.

A. As x increases, y tends to increase.
B. As x increases, y tends to decrease.
C. All points lie exactly on one line.
D. The plot must be circular.

7. What is the purpose of a line of fit?

A. To force every point onto one exact line
B. To find the x-axis automatically
C. To model the overall trend of the data
D. To prove the data are a function

8. What does negative correlation mean in a scatter plot?

A. As x increases, y tends to increase.
B. Every point is on the x-axis.
C. As x increases, y tends to decrease.
D. The graph must be a circle.

9. Which equation represents a horizontal line through y = 4?

A. y = 4
B. x = 4
C. y = x + 4
D. x + y = 4

10. Which equation represents a vertical line through x = -2?

A. x = -2
B. y = -2
C. y = x - 2
D. x + y = -2

11. Which point lies on y = -x + 3?

A. (2, 2)
B. (3, 3)
C. (1, 2)
D. (0, -3)

12. Which point lies on x^2 + y^2 = 9?

A. (0, 3)
B. (2, 2)
C. (3, 3)
D. (1, 1)

13. If a data point sits above the line of fit, what is true?

A. The actual y-value is smaller than the predicted y-value.
B. The slope must be negative.
C. The point cannot belong to the data set.
D. The actual y-value is greater than the predicted y-value.

14. What is the best first step to find the midpoint of two points?

A. Average the x-values and average the y-values.
B. Multiply the x-values and add the y-values.
C. Subtract the x-values only.
D. Set both x-values equal to 0 first.

15. A student plots (2, 5) by moving up 2 and right 5. What is the mistake?

A. They should always move left first.
B. They should ignore the second coordinate.
C. They should start from (1, 1) instead of the origin.
D. They reversed the x- and y-coordinates.

16. **Find the horizontal distance between (1, 3) and (5, 3). Answer with a number.**

17. **Find the vertical distance between (2, -1) and (2, 4). Answer with a number.**

18. **Find the x-coordinate of the midpoint of (0, 2) and (6, 4). Answer with a number.**

19. **Find the y-coordinate of the midpoint of (0, 2) and (6, 4). Answer with a number.**

20. **Find the slope of the line through (1, 2) and (4, 8). Answer with a number.**

Use the change in y and the change in x between the two points to find slope.

21. **If y = 2x + 1, find y when x = 3. Answer with a number.**

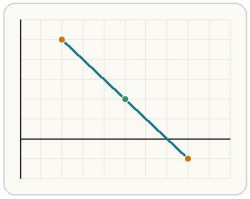
22. **For x^2 + y^2 = 25, what is the radius? Answer with a number.**

23. **For y = -3x + 7, what is the y-intercept? Answer with a number.**

24. **Which student correctly finds the slope through (2, 1) and (5, 7)?**

A. Student B: slope = (5 - 2) / (7 - 1) = 3 / 6 = 0.5.
B. Student C: slope = 7 - 5 = 2.
C. Student A: slope = (7 - 1) / (5 - 2) = 6 / 3 = 2.
D. Student D: slope = 2 + 1 + 5 + 7.

25. **Find the midpoint of (2, 5) and (8, -1). Answer as an ordered pair.**



The midpoint is halfway between the endpoints in both the horizontal and vertical directions.

26. **Write the equation of the horizontal line through y = -3. Answer in the form y = ...**

27. **Write the equation of the vertical line through x = 4. Answer in the form x = ...**

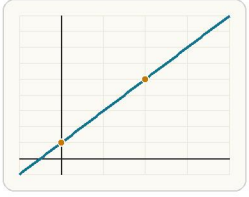
28. **Write the equation of the circle centered at the origin with radius 4. Answer as an equation.**

29. **Write the equation of the line with slope 3 and y-intercept 2. Answer in the form y = ...**

30. **For the line y = 2x - 6, state the x-intercept as an equation in x. Answer with your final expression.**

31. **Find the midpoint of (-1, 1) and (5, 7). Answer as an ordered pair.**

32. **Write the equation of the line through (0, 1) and (2, 5). Answer in the form y = ...**



From the two points, determine the slope and then use the point with x = 0 to identify the y-intercept.