

Practice Problems for X-Y Coordinates and Graphs
from www.topmath.info

1 What point is 9 units to the left of $(13,4)$?

2 The points $(-24,15)$, $(-18,15)$, and $(-24,9)$ are three corners of a rectangle. What is the fourth point?

3 What point is 5 units below $(-2,-18)$?

4 What point is 10 units to the left of $(-16,2)$?

5 What is the slope of the line $x = -y$?

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6 What is the slope of the line $y = x/6$?

7 What is the slope of the line whose equation is $4x - y = 2$?

8 What is the slope of the line $y = x/3$?

9 What is the slope of the line $y = x/4 + 13$?

10 What is the slope of the line $y = x/1 - 1$?

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11 What are the coordinates of the point at which the line that contains $(-2,0)$ and $(1,-2)$ passes through the Y axis?

12 A line going through $(7,-7)$ has a slope of -6 . What is the Y intercept of the line?

13 What is the equation of the line whose X intercept is $(-7,0)$ and whose Y intercept is $(0,-6)$?

14 What point is 9 units below $(2,6)$?

15 What point is 3 units to the left of $(0,2)$?

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1 ANSWER: (4,4)

2 ANSWER: (-18,9). EXPLANATION: Since one X value appears twice, and one Y value appears twice, the fourth point must be the one that would make the other X and Y values appear twice in the completed list of points.

3 ANSWER: (-2,-23)

4 ANSWER: (-26,2)

5 ANSWER: -1

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6 ANSWER: $1/6$

7 ANSWER: 4. EXPLANATION: Subtract $4x$ from each side to make the equation read $-y = -4x + 2$. Now multiply both sides by -1 , and the equation reads $y = 4x - 2$. This is now in the form $y = mx + b$, where m (4) is the slope.

8 ANSWER: $-1/3$

9 ANSWER: $1/4$

10 ANSWER: $-1/1$

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11 ANSWER: $(0, -1 \frac{1}{3})$. EXPLANATION: The X-coordinate of the Y-intercept will be 0, by definition. The slope of the line is the change in Y divided by the change in X, in this case, $(-2 - 0) / (1 - -2)$, which equals $-2/3$. Going from the first point, $(-2, 0)$, to the Y axis requires a move of 2 units in the X direction. Multiplying this value by the slope, we see that we must move by $-4/3$ units in the Y direction from $(-2, 0)$, which means the line intersects the Y axis at $(0, -1 \frac{1}{3})$.

12 ANSWER: $(0, 35)$. EXPLANATION: The Y axis is 7 units to the left of point $(7, -7)$. Because it is to the left, we multiply 7 by the negative of the slope (6) to see that the line moves by 42 units in the Y direction from the given point to the Y intercept. Add this to the Y coordinate of $(7, -7)$ to get the Y coordinate of the Y intercept.

13 ANSWER: $Y = -6X/7 - 6$. EXPLANATION: In going from the X intercept to the Y intercept, the line changes by -6 in the Y direction, and by 7 in the X direction. The slope is therefore $-6/7$, and the Y intercept is given as -6.

14 ANSWER: $(2, 6)$

15 ANSWER: $(-3, 2)$