

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

1 What point is 7 units above $(3,0)$?

2 What point is 3 units to the right of $(6,7)$?

3 The points $(21,3)$, $(31,11)$, and $(21,11)$ are three corners of a rectangle. What is the fourth point?

4 What point is 1 units above $(9,-6)$?

5 What point is 4 units to the right of $(6,-8)$?

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

7 What is the slope of the line $y = x/7$?

8 What is the slope of the line whose equation is $2x - y = 1$?

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

10 What is the slope of the line $y = x/6 + 14$?

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11 What is the slope of the line $y = x/9 - 16$?

12 What are the coordinates of the point at which the line that contains $(-5,-3)$ and $(0,-3)$ passes through the Y axis?

13 A line going through $(9,-7)$ has a slope of -2 . What is the Y intercept of the line?

14 What is the equation of the line whose X intercept is $(-2,0)$ and whose Y intercept is $(0,3)$?

15 What point is 9 units below $(3,9)$?

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1 ANSWER: (3,7)

2 ANSWER: (9,7)

3 ANSWER: (31,3). 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.

4 ANSWER: (9,-5)

5 ANSWER: (10,-8)

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6 ANSWER: 1

7 ANSWER: $1/7$

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

9 ANSWER: $-1/5$

10 ANSWER: $1/6$

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11 ANSWER: $-1/9$

12 ANSWER: $(0,-3)$. EXPLANATION: This problem is very simple. Notice that the Y coordinate of both points is -3 . Since the line is straight, every point will have the same Y value. Therefore, the Y intercept will be $(0,-3)$.

13 ANSWER: $(0,11)$. EXPLANATION: The Y axis is 9 units to the left of point $(9,-7)$. Because it is to the left, we multiply 9 by the negative of the slope (2) to see that the line moves by 18 units in the Y direction from the given point to the Y intercept. Add this to the Y coordinate of $(9,-7)$ to get the Y coordinate of the Y intercept.

14 ANSWER: $Y = 3X/2 + 3$. EXPLANATION: In going from the X intercept to the Y intercept, the line changes by 3 in the Y direction, and by 2 in the X direction. The slope is therefore $3/2$, and the Y intercept is given as 3.

15 ANSWER: $(3,0)$