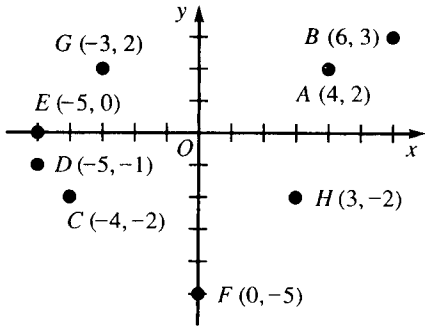
NAME _____ DATE _____

8–2 Points, Lines, and Their Graphs

1–8.



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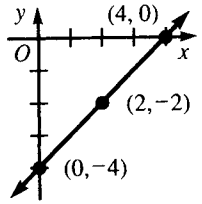

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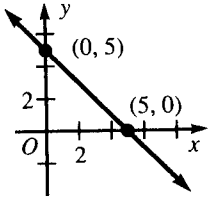

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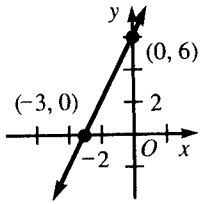

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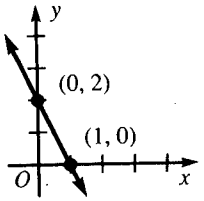

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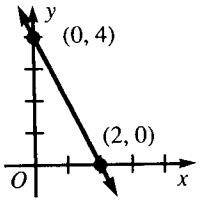

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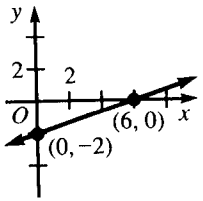

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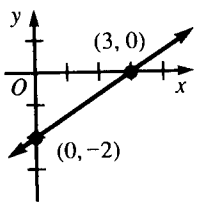

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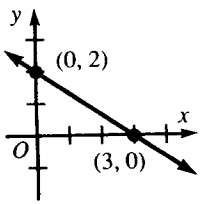


NAME _____ DATE _____

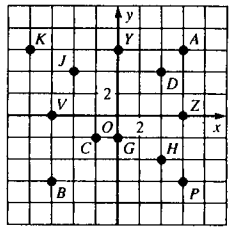
8–2 Points, Lines, and Their Graphs *(continued)*

Plot each point in a coordinate plane. Answers given at the back of this Answer Key.

1. $A(4, 2)$ **2.** $B(6, 3)$ **3.** $C(-4, -2)$ **4.** $D(-5, -1)$

5. $E(-5, 0)$ **6.** $F(0, -5)$ **7.** $G(-3, 2)$ **8.** $H(3, -2)$

Refer to the diagram at the right. Name the point(s) described.



9. The point on the positive x-axis. ***Z***

10. The point on the negative y-axis. ***G***

11. The points on the vertical line through Z. ***A, P***

12. The points on the horizontal line through Y. ***A, K***

13. The x-coordinate is zero. ***G, Y***

14. The y-coordinate is zero. ***V, Z***

15. The points have equal x- and y-coordinates. ***A, B, C, D***

16. The points have opposite x- and y-coordinates. ***H, J, P***

Example 2 Graph $x - 2y = 4$ in a coordinate plane.

Solution

Let $y = 0$:

$x - 2(0) = 4$

$x = 4$

Solution (4, 0)

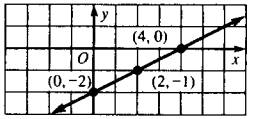
Let $x = 0$:

$0 - 2y = 4$

$-2y = 4$

$y = -2$

Solution (0, −2)



A third solution, such as (2, −1) can be used as a check.

Graph each equation. You may wish to verify your graphs on a computer or a graphing calculator. Graphs given at the back of this Answer Key.

17. $x - y = 4$ **18.** $x + y = 5$ **19.** $y = 2x + 6$ **20.** $y = -2x + 2$

21. $2x + y = 4$ **22.** $x - 3y = 6$ **23.** $2x - 3y = 6$ **24.** $2x + 3y = 6$

Mixed Review Exercises

State whether each ordered pair is a solution of the given equation.

1. $2x + y = 7$
$(4, -1), (-1, 9)$
yes, yes

2. $3a + 2b = 6$
$(2, -6), (2, 0)$
no, yes

3. $x + 3y = 11$
$(2, 3), (-3, -2)$
yes, no

4. $2m + 3n = 7$
$(2, 1), (-1, 3)$
yes, yes

Solve.

5. $x^2 + 5x + 6 = 0$ **{−2, −3}** **6.** $-z + 9 = 3$ **{6}** **7.** $2b^2 - 6b - 8 = 0$ **{−1, 4}**

8. $\frac{10 - 5y}{3} = 5$ **{−1}** **9.** $5x + 9 = 3x - 11$ **{−10}** **10.** $10 = \frac{2}{5}n$ **{25}**