

TOC 88 ACT Prep DO NOW

5. The oxygen saturation of a lake is found by dividing the amount of dissolved oxygen the lake water currently has per liter by the dissolved oxygen capacity per liter of the water, and then converting that number into a percent. If the lake currently has 6.4 milligrams of dissolved oxygen per liter of water and the dissolved oxygen capacity is 9.5 milligrams per liter, what is the oxygen saturation level of the lake, to the nearest percent?

A. 64%
 B. 67%
 C. 70%
 D. 89%
 E. 95%

$$\frac{\text{dis. oxy. curr.}}{\text{dis. oxy. cap.}} = \frac{6.4}{9.5} = 0.67 = 67\%$$

6. A rectangular lot that measures 125 feet by 185 feet is completely fenced. What is the length, in feet, of the fence?

F. 310
 G. 435
 H. 620
 J. 740
 K. 1,240

$$P = 2l + 2w$$

$$P = 2(125) + 2(185) = 620$$

7. The expression $a[(b - c) + d]$ is equivalent to:

A. $ab + ac + ad$
 B. $ab - ac + d$
 C. $ab - ac + ad$
 D. $ab - c + d$
 E. $a - c + d$

$$a[b - c + d]$$

$$ab - ac + ad$$

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8. If $6x - 3 = -5x + 7$, then $x = ?$

R. $\frac{4}{11}$
 G. $\frac{10}{11}$
 H. $\frac{11}{10}$
 J. $\frac{1}{2}$
 K. 10

$$6x - 3 = -5x + 7$$

$$+5x \quad \downarrow \quad +5x$$

$$11x - 3 = 7$$

$$\downarrow \quad +3 \quad +3$$

$$11x = 10$$

$$\div 11 \quad \div 11$$

$$x = \frac{10}{11}$$

9. What two numbers should be placed in the blanks below so that the difference between the consecutive numbers is the same?

13, , , 34
 A. 19, 28
 B. 20, 27
 C. 21, 26
 D. 23, 24
 E. 24, 29

10. If x is a real number such that $x^3 = 729$, then $x^2 + \sqrt{x} = ?$

R. 9
 G. 27
 H. 30
 J. 84
 K. 90

$$\sqrt[3]{x^3} = \sqrt[3]{729}$$

$$x = 9$$

$$9^2 + \sqrt{9}$$

$$81 + 3$$

$$84$$

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STEP THREE:
Locate the point of intersection.

$(0, -3)$

STEP FOUR:
Check the solution!

$y = 5x - 3$	$3x - 8y = 24$
$-3 = 5(0) - 3$	$3(0) - 8(-3) = 24$
$-3 = 0 - 3$	$0 + 24 = 24$
$-3 = -3 \checkmark$	$24 = 24$

The solution is: $(0, -3)$

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Example 1 (page 90):

Solve by Graphing.

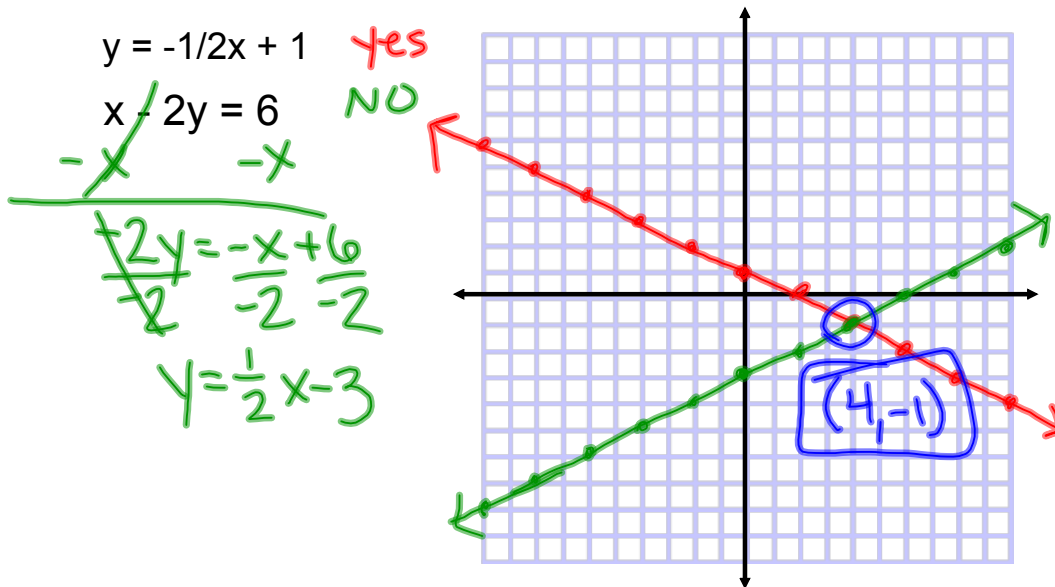
$y = x + 5$
 $y = -x + 3$

$\frac{+}{+} \rightarrow \begin{matrix} \uparrow \\ \rightarrow \end{matrix} \text{ or } \begin{matrix} \downarrow \\ \leftarrow \end{matrix}$
 $\frac{-}{+} \text{ or } \frac{+}{-} \rightarrow \begin{matrix} \uparrow \\ \leftarrow \end{matrix} \text{ or } \begin{matrix} \downarrow \\ \rightarrow \end{matrix}$

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Example 2 (page 90)

Solve by Graphing



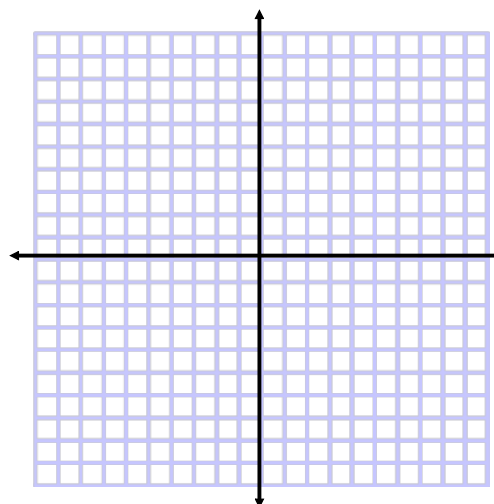
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Example 3 (page 90)

Solve by Graphing

$$x + 2y = 4$$

$$3x + 6y = 13$$



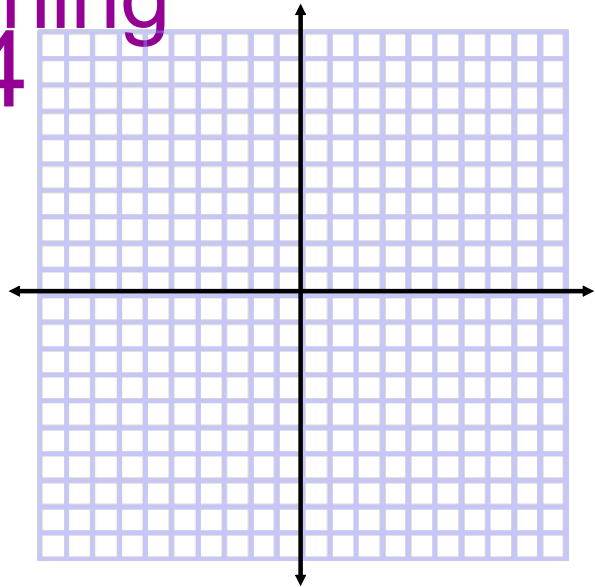
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Example 4 (page 90)

Solve by Graphing

$$y = 4x - 4$$

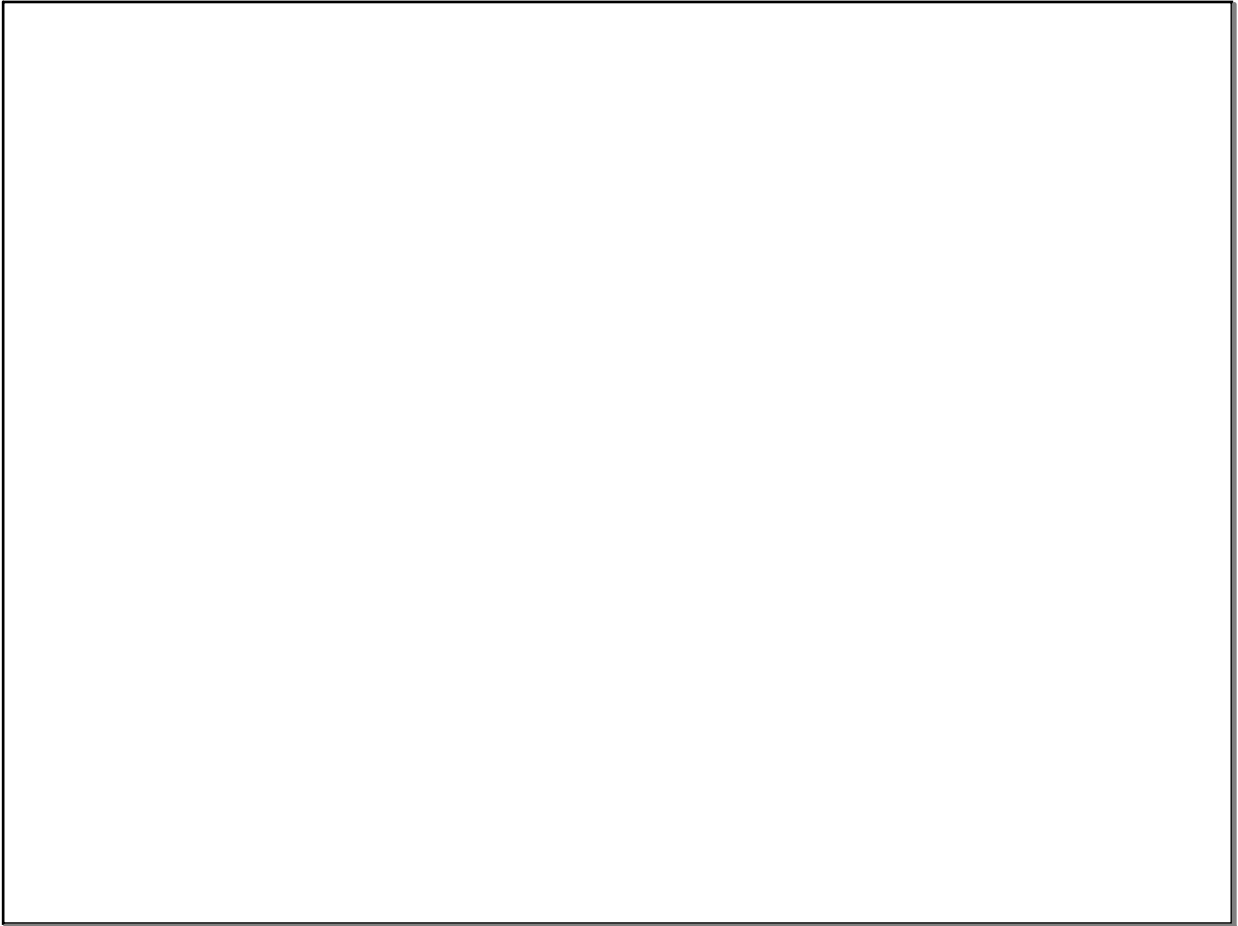
$$8x - 2y = 8$$



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1-12
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