

## Systems of Equations Review

Solve each system.

$$\begin{aligned} 1) \quad & -4x - 10y = -7 \\ & -12x - 30y = 5 \end{aligned}$$

- A)  $(-10, -4)$       B)  $(8, 4)$   
 C)  $(-4, -10)$       D) No solution

$$\begin{aligned} 2) \quad & -7x + 7y = -14 \\ & 5x - 10y = 25 \end{aligned}$$

- A)  $(1, 2)$       B)  $(-1, -3)$   
 C)  $(2, 1)$       D)  $(-2, 1)$

$$\begin{aligned} 3) \quad & 7x - 4y = 17 \\ & 4x - 3y = 14 \end{aligned}$$

- A) No solution      B)  $(-1, -6)$   
 C)  $(-1, 6)$       D)  $(-6, -1)$

$$\begin{aligned} 4) \quad & 5x - 4y = 4 \\ & -6x - 2y = 2 \end{aligned}$$

- A)  $(0, -1)$       B)  $(-1, 1)$   
 C) No solution      D)  $(-6, -1)$

$$\begin{aligned} 5) \quad & 3a + 21b - 9c = -2 \\ & -15a - 12b - 15c = 7 \\ & 6a - 12b = 23 \end{aligned}$$

- A)  $\left(\frac{11}{6}, -1, -\frac{3}{2}\right)$       B)  $\left(\frac{1}{2}, \frac{7}{6}, 1\right)$   
 C)  $\left(1, \frac{1}{2}, \frac{7}{6}\right)$       D)  $\left(-2, \frac{1}{3}, \frac{3}{5}\right)$

$$\begin{aligned} 6) \quad & 4x + 2y + z = -6 \\ & -4x - 3y - 2z = 11 \\ & -5x - 7y + z = 30 \end{aligned}$$

- A)  $(-3, 6, 7)$       B)  $(-3, 7, 6)$   
 C)  $(-5, 1, 0)$       D)  $(1, -5, 0)$

7) A boat traveled 300 miles downstream and back. The trip downstream took 12 hours. The trip back took 20 hours. Find the speed of the boat in still water and the speed of the current.

- A) boat: 26 mph, current: 7 mph      B) boat: 20 mph, current: 5 mph  
 C) boat: 23 mph, current: 2 mph      D) boat: 22 mph, current: 2 mph

8) Castel left the hardware store driving toward the lake 3.5 hours before Jaidee. Jaidee drove in the opposite direction going 9.1 km/h faster than Castel for 1.5 hours after which time they were 383.5 km apart. How fast did Castel drive?

9) An aircraft carrier left Port 44 and traveled toward Guam. 3.4 hours later a container ship left traveling 3.4 mph faster in an effort to catch up to it. After 7.6 hours the container ship finally caught up. What was the aircraft carrier's average speed?

10) How much clay do you need to add to 7 m<sup>3</sup> of soil with 30% clay in order to make a soil with 51% clay?

- A) 2 m<sup>3</sup>      B) 5 m<sup>3</sup>  
 C) 1 m<sup>3</sup>      D) 3 m<sup>3</sup>

11) For his birthday party Julio mixed together 2 gal. of Brand A fruit punch and 4 gal. of apple juice. If Brand A contains 16% fruit juice, then what percent of the final mixture is fruit juice?

- A) 72%      B) 58%  
 C) 60%      D) 30%

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1)  $-4x - 10y = -7$   
 $-12x - 30y = 5$

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 $5x - 10y = 25$

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 $4x - 3y = 14$

- A) No solution      \*B)  $(-1, -6)$   
 C)  $(-1, 6)$       D)  $(-6, -1)$

4)  $5x - 4y = 4$   
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- \*A)  $(0, -1)$       B)  $(-1, 1)$   
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5)  $3a + 21b - 9c = -2$   
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 $6a - 12b = 23$

- \*A)  $\left(\frac{11}{6}, -1, -\frac{3}{2}\right)$       B)  $\left(\frac{1}{2}, \frac{7}{6}, 1\right)$   
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6)  $4x + 2y + z = -6$   
 $-4x - 3y - 2z = 11$   
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56.9 km/h

9) An aircraft carrier left Port 44 and traveled toward Guam. 3.4 hours later a container ship left traveling 3.4 mph faster in an effort to catch up to it. After 7.6 hours the container ship finally caught up. What was the aircraft carrier's average speed?

7.6 mph

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