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## Extra Practice: Systems Quiz \#1

Solve the system by graphing. Write your answer as an ordered pair. (3 pts each)

1) $\left\{\begin{array}{c}y=\frac{1}{2} x+2 \\ y=-\frac{1}{2} x-6\end{array}\right.$




Solve the system by substitution. (3 pts each)
4) $\left\{\begin{array}{c}x=3 y \\ x-5 y=-18\end{array}\right.$
5) $\left\{\begin{array}{c}2 x+5 y=9 \\ y=x-8\end{array}\right.$
6) $\left\{\begin{array}{l}x=-3 y+1 \\ -2 x-4 y=8\end{array}\right.$
7) Choose one of the problems from \#1, \#2, or \#3. Check your answer by substituting the coordinates of your solution back into both original equations.
8) Choose one of the problems from \#4, \#5, or \#6. Check your answer by substituting the coordinates of your solution back into both original equations.
9) Explain, in words, the general process of how to graph an equation where $x$ and $y$ are on the same side (like the bottom equation of \#2 or the top equation of \#3.)
10) In the 2016 Nathan's Hot Dog Eating Contest, Joey Chestnut and Matt Stonie were the top two contestants. All together, they ate 123 hot dogs in ten minutes. Joey ate 17 more hot dogs than Matt. Write and solve a system of equations to find out how many hot dogs did they each ate?
11) In Mr. Brown's fourth period math class, the amount of boys is triple the amount of girls. There are 24 students all together. How many boys and girls are in Mr. Brown's class?
12) Creative Crafts gives scrapbooking lessons for $\$ 10$ per hour plus a $\$ 20$ supply charge. Scrapbooks Incorporated gives lessons for $\$ 15$ per hour with no additional charges.
a) Write an equation for each place where $\mathbf{x}$ is the number of hours and $\mathbf{y}$ is the total cost.
b) Use substitution to solve the system. (Make sure to find both $x$ and $y$ !)
c) Use graphing to solve the system. Write your answer as an ordered pair.
d) Explain what the numbers in your solution mean in the context of the problem. You must mention both numbers in your explanation.


