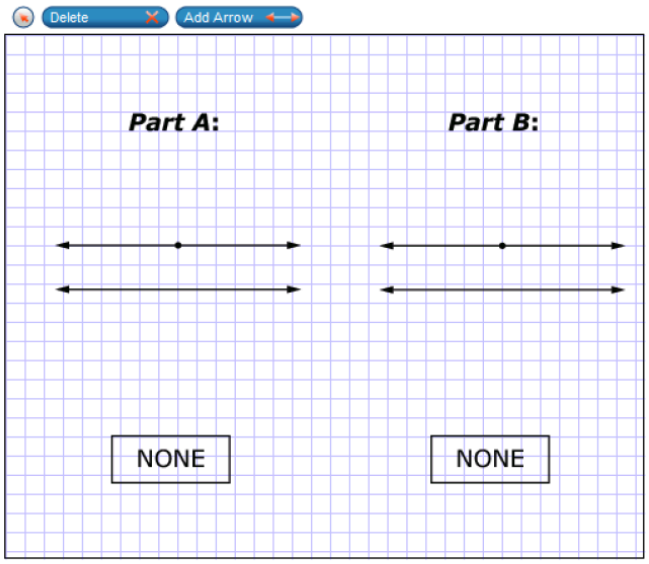
SBAC Practice Test High School

1) When a transversal intersects a pair of parallel lines it will create two pairs of alternate exterior angles.

Ricky claims the angles within each pair are congruent to each other, but not congruent to either angle in the other pair.

Part A
Draw a transversal through the point that supports Ricky's claim or select **NONE** if there is not a situation to support the claim.

Part B
Draw a transversal through the point that **refutes** Ricky's claim, or select **NONE** if there is not a situation to refute the claim.



2) Which inequality represents all possible solutions of $-6n < -12$?

Ⓐ $n < 72$

Ⓑ $n > 2$

Ⓒ $n < 2$

Ⓓ $n > 72$

3) A train travels 250 miles at a constant speed (x), in miles per hour.

Enter an equation that can be used to find the speed of the train, if the time to travel 250 miles is 5 hours.

4) A student earns $7.50 per hour at her part-time job. She wants to earn at least $200.

Enter an inequality that represents all of the possible numbers of hours (h) the student could work to meet her goal. Enter your response in the first response box.

Enter the least whole number of hours the student needs to work in order to earn at least $200. Enter your response in the second response box.

5) A store sells used and new video games. New video games cost more than used video games. All used video games cost the same. All new video games also cost the same.

Omar spent a total of $84 on 4 used video games and 2 new video games. Sally spent a total of $78 on 6 used video games and 1 new video game. Janet has $120 to spend.

Enter the number of used video games Janet can purchase after she purchases 3 new video games.

6) Emily is solving the equation $2(x + 9) = 4(x + 7) + 2$. Her steps are shown.

Part A
Click on the first step in which Emily made an error.

Part B
Click on the solution to Emily's original equation.

Part A

Step 1: $2(x + 9) = 4(x + 7) + 2$

Step 2: $2x + 18 = 4x + 28 + 2$

Step 3: $2x + 18 = 4x + 26$

Step 4: $-8 = 2x$

Step 5: $-4 = x$

Part B

−10.5 −6 −2 0 2 4.5 8

7) The formula for the rate at which water is flowing is $R = \frac{V}{t}$, where

- R is the rate,
- V is the volume of water measured in gallons (g), and
- t is the amount of time, in seconds (s), for which the water was measured.

Select an appropriate measurement unit for the rate.

Ⓐ gs

Ⓑ $\frac{g}{s}$

Ⓒ $\frac{s}{g}$

Ⓓ $\frac{1}{sg}$

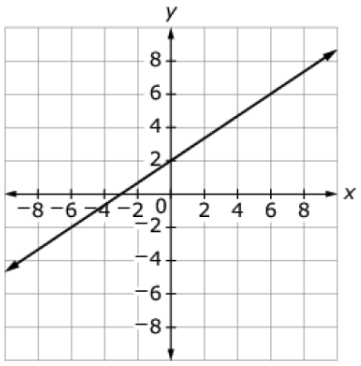
8) Match each recursive function with the equivalent explicit function.

	$f(n) = 6^{(n-1)}$; $n \geq 1$	$f(n) = 12 + 6n$; $n \geq 1$	$f(n) = 12^{(n-1)}$; $n \geq 1$	$f(n) = 6 + 12n$; $n \geq 1$
$f(1) = 18$; $f(n) = f(n-1) + 6$; $n \geq 2$	☐	☐	☐	☐
$f(1) = 18$; $f(n) = f(n-1) + 12$; $n \geq 2$	☐	☐	☐	☐
$f(1) = 1$; $f(n) = 6f(n-1)$; $n \geq 2$	☐	☐	☐	☐
$f(1) = 1$; $f(n) = 12f(n-1)$; $n \geq 2$	☐	☐	☐	☐

9) Write an expression equivalent to $\frac{b^{11}}{b^4}$ in the form b^m.

Name _____

10) Choose the ordered pair that is a solution to the equation represented by the graph.



Ⓐ $(0, -3)$

Ⓑ $(2, 0)$

Ⓒ $(2, 2)$

Ⓓ $(-3, 0)$

11) A student earns $7.50 per hour at her part-time job. She wants to earn at least $200.

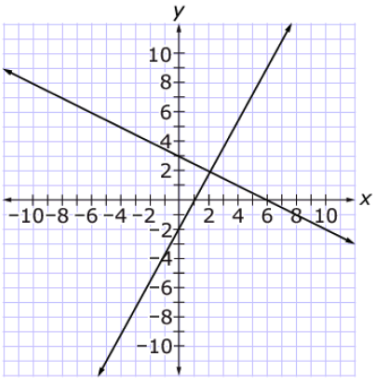
Enter an inequality that represents all of the possible numbers of hours (h) the student could work to meet her goal. Enter your response in the first response box.

Enter the least whole number of hours the student needs to work in order to earn at least $200. Enter your response in the second response box.

12) Click on the region of the graph that contains the solution set of the system of linear inequalities.

$y \leq -\frac{1}{2}x + 3$

$y \geq 2x - 2$



13) The basketball team sold t-shirts and hats as a fund-raiser. They sold a total of 23 items and made a profit of $246. They made a profit of $10 for every t-shirt they sold and $12 for every hat they sold.

Determine the number of t-shirts and the number of hats the basketball team sold.

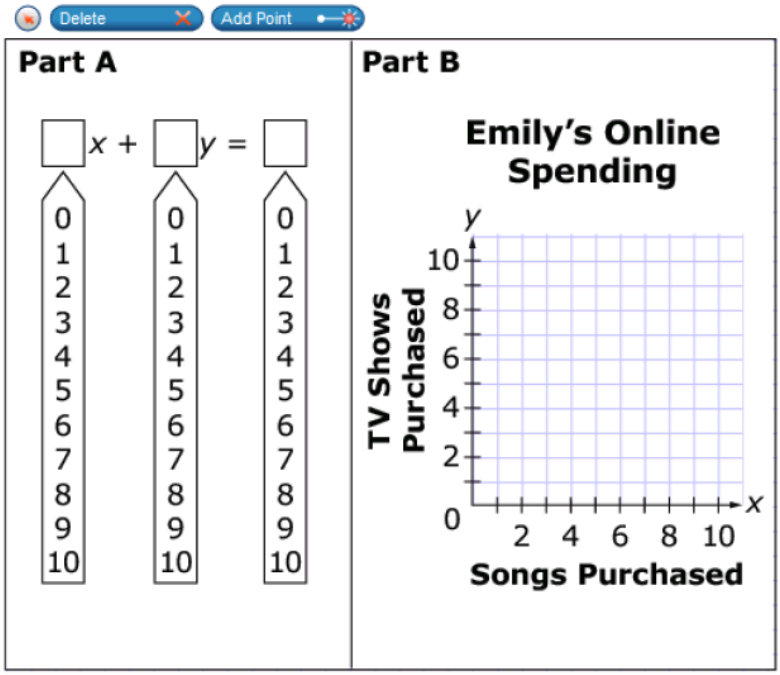
Enter the number of t-shirts in the first response box.

Enter the number of hats in the second response box.

14) Emily has a gift certificate for $10 to use at an online store. She can purchase songs for $1 each or episodes of TV shows for $3 each. She wants to spend exactly $10.

Part A
Create an equation to show the relationship between the number of songs, x, Emily can purchase and the number of episodes of TV shows, y, she can purchase.

Part B
Use the Add Point tool to plot **all** possible combinations of songs and TV shows Emily can purchase.



15) Mike earns $6.50 per hour plus 4% of his sales.

Enter an equation for Mike's total earnings, E, when he works x hours and has a total of y sales, in dollars.

17) Nina has some money saved for a vacation she has planned.

- The vacation will cost a total of $1600.
- She will put $150 every week into her account to help pay for the vacation.
- She will have enough money for the vacation in 8 weeks.

If Nina was able to save $200 a week instead of $150 a week, how many fewer weeks would it take her to save enough money for the vacation? Enter the result in the response box.

18) Consider this solution to a problem.

Problem: $-4(6-y)+4=-4$
Step 1: $-24-4y+4=-4$
Step 2: $-20-4y=-4$
Step 3: $-4y=16$
Step 4: $y=-4$

In the first response box, enter the number of the step where the mistake is made.

In the second response box, enter the correct solution to the problem.

19) A train travels 250 miles at a constant speed (x), in miles per hour.

Enter an equation that can be used to find the speed of the train, if the time to travel 250 miles is 5 hours.