

CP Algebra 2
Unit 1 Review

Name: _____

Date: _____ Block: _____

Solve each equation.

1. $3(x + 2) + 2(x - 4) + 1 = -26$

2. $3(2x - 1) = 5(x + 2) - 2$

3. $2(3x + 5) = 2x + 9$

4. $6(x + 2) - 2(x - 1) = 17$

Solve each inequality.

Graph your answer and write your answer in interval notation.

5. $30 - 6x < -3(5 + 7x)$

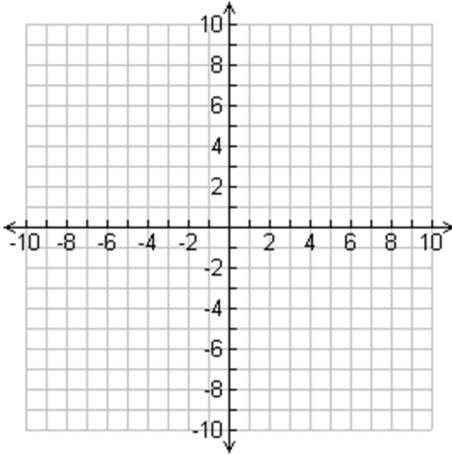
6. $33 + 4x \leq -(x + 7)$

7. $2(6 + 4x) \geq 12 - 8x$

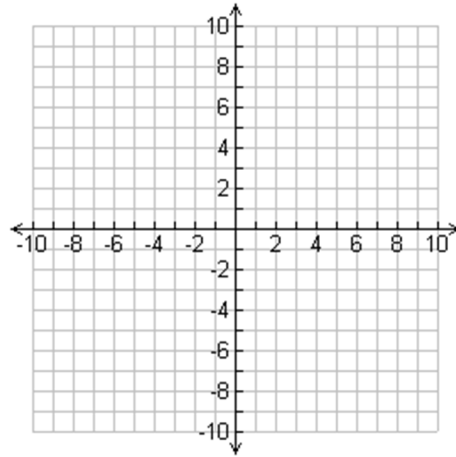
8. $-5(2x + 7) + x < -x - 11$

Graph each linear equation or linear inequality.

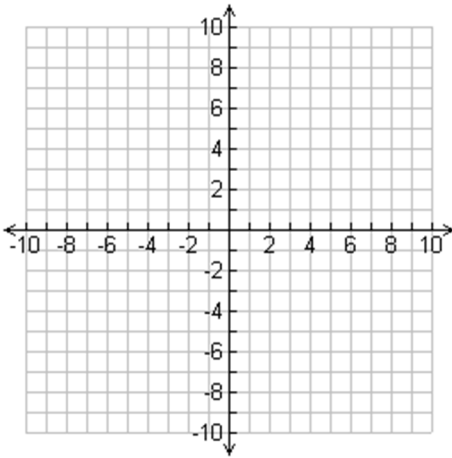
9. $y = -2x + 3$



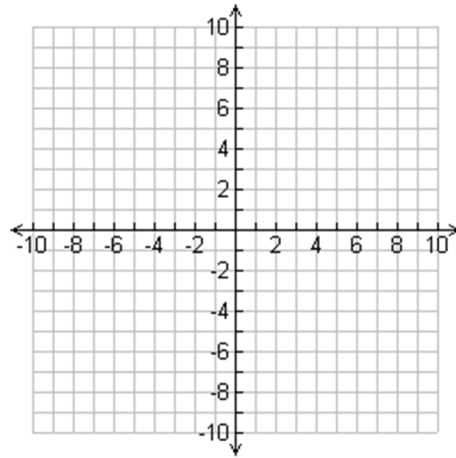
10. $y = \frac{1}{4}x - 5$



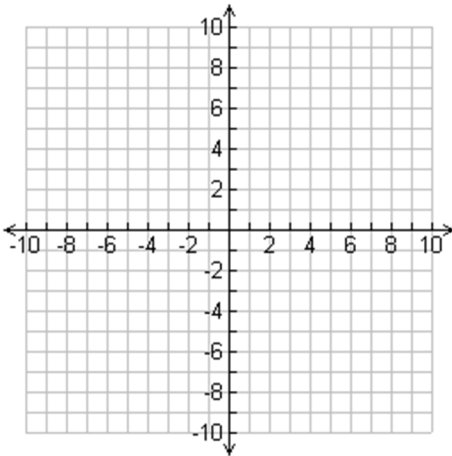
11. $5x - y = 10$



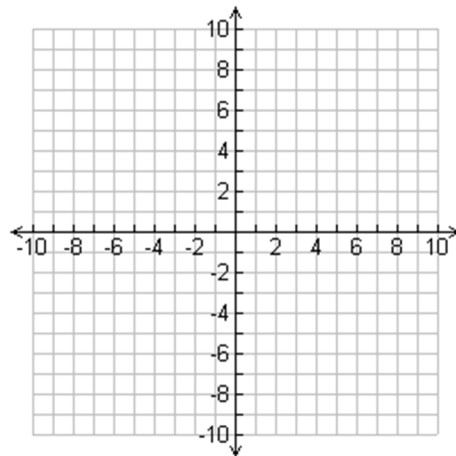
12. $5x + 4y = 20$



13. $y \geq -3x + 4$



14. $2x + 2y < 10$

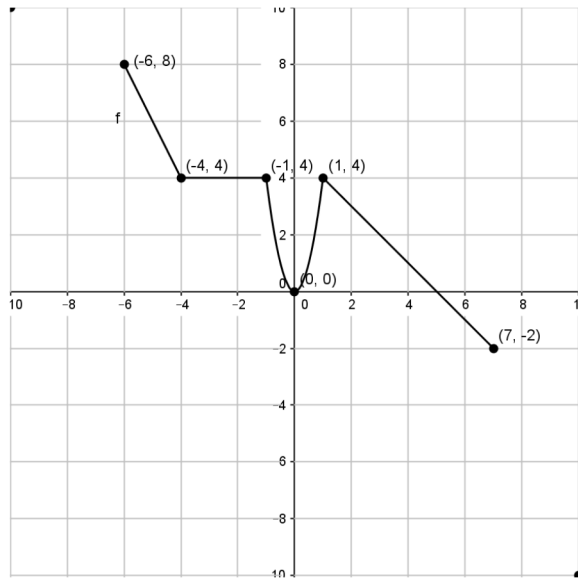
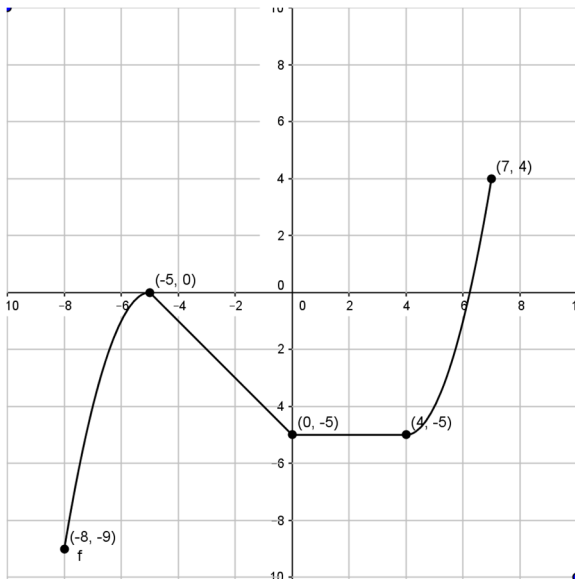


Use a table to perform each transformation of $y = f(x)$.

Graph your answers on the same coordinate plane as the original function.

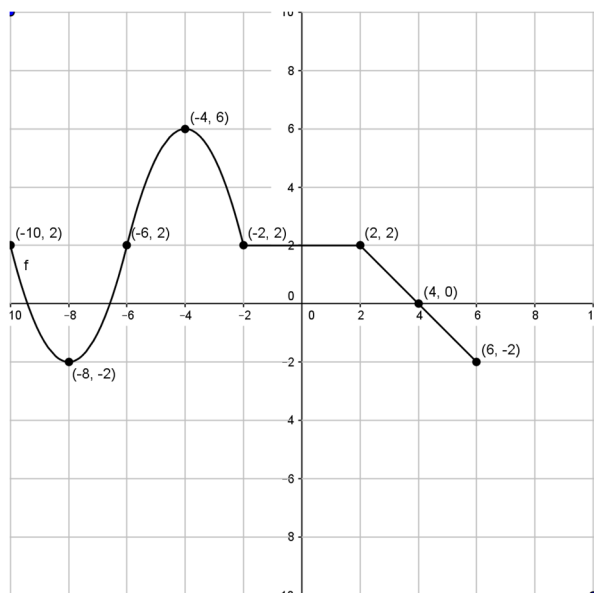
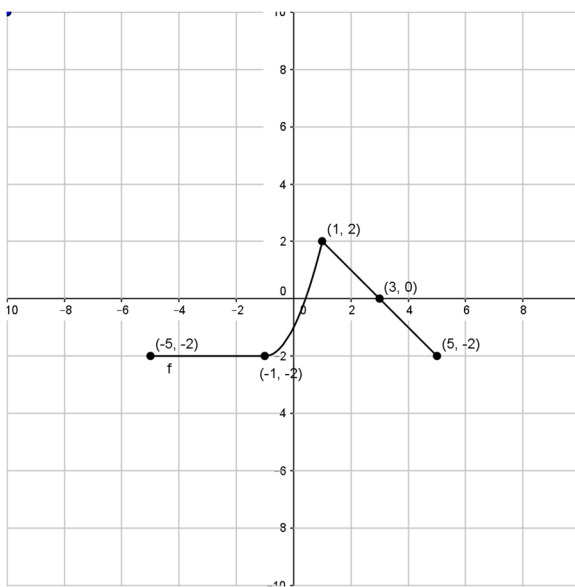
15. Reflect over the x-axis, down 3

16. Vertical shrink by $\frac{1}{2}$, left 4



17. Horizontal stretch by 2, up 1

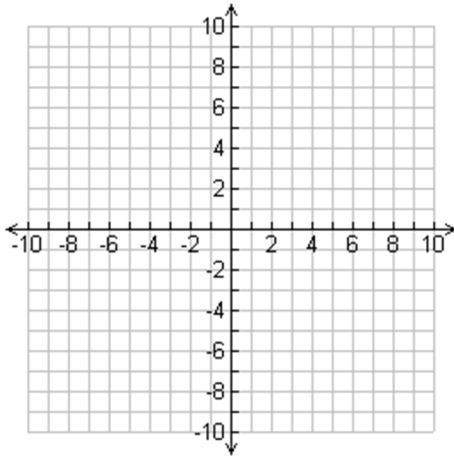
18. Up 4 and right 3



Graph the data. Determine the parent function, domain and range.

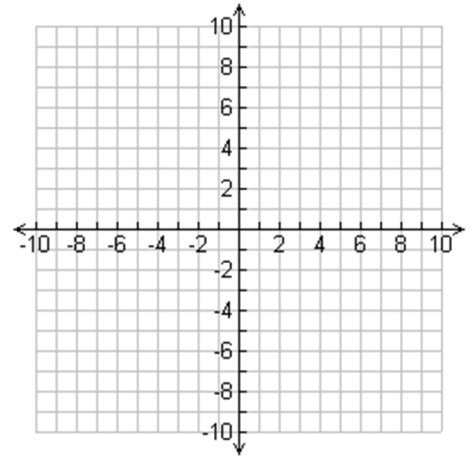
19.

x	-2	-1	0	1	2
y	8	2	0	2	8



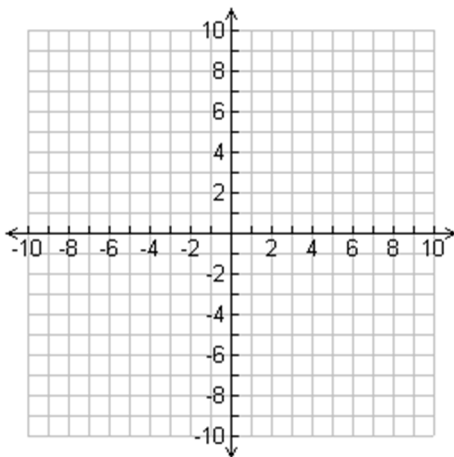
20.

x	-2	-1	0	1	2
y	8	1	0	-1	-8



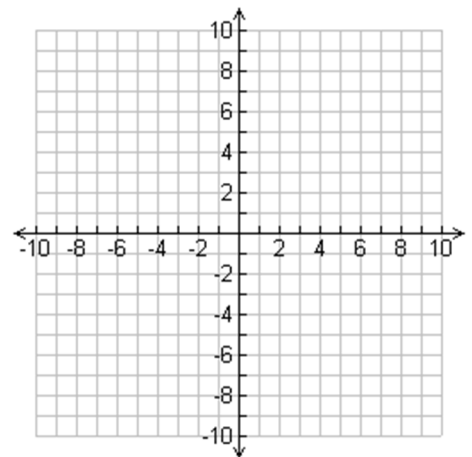
21.

x	-6	-5	-2	3	10
y	-3	-2	-1	0	1



22.

x	0	1	2	3	4
y	-4	-1	0	-1	-4



Graph the following on your graphing calculator.
Determine the parent function, domain and range.

23. $g(x) = \sqrt{-x + 1}$

24. $g(x) = -\left(\frac{1}{2}x\right)^2$

25. $g(x) = (x - 2)^3 - 3$

26. $g(x) = (x + 4)^2 - 6$

Graph the system of inequalities. Name the points of interest and determine which points maximize and minimize the objective function.

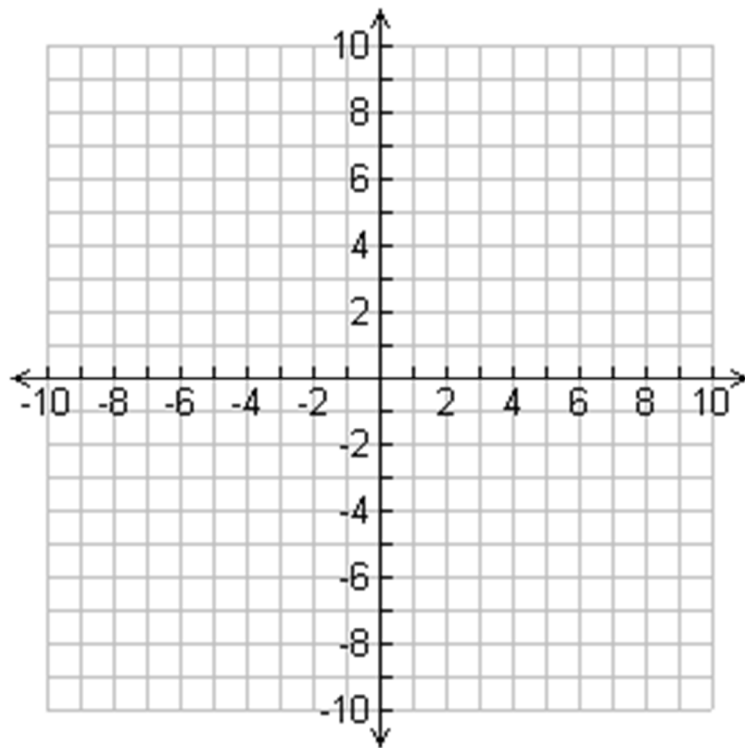
27.

$$y \geq -x - 2$$

$$y \geq 3x + 2$$

$$y \leq x + 4$$

$$f(x, y) = -3x + 5y$$



28. A clothing company makes jackets and pants. Each jacket requires 1 hour of cutting and 4 hours of sewing. Each pair of pants requires 2 hours of cutting and 2 hours of sewing. The total time per day available for cutting is 10 hours and for sewing is 32 hours. If the profit on a jacket is \$14 and on a pair of pants is \$8, determine the number each that should be made each day to maximize profit. What is the maximum profit?