P1 Honors Advanced Algebra
Review Key Concepts – Day 1

DATE:_____

Evaluate each expression.

1) $((-16-(-2+1))\cdot 2)\div 5$

2) $(2-5)^2 \div 4$

Evaluate the following expression using the values given.

3) $-3\div 3(a+c(b+5)-(-6+a))$ if $a=1,\ b=-6,\ c=-4$.

Simplify the expression.

4) $-10(x-7)-7(x+2)$

Solve each equation for the indicated variable.

5) $-3(4r-8)=-36$

6) $75=3(-6n-5)$

7) $-10n+3(8+8n)=-6(n-4)$

8) $-11+10(p+10)=4-5(2p+11)$

P2 & P3 Honors Advanced Algebra Name_____

Review Key Concepts - Day 3

Date_____

Solve each equation.

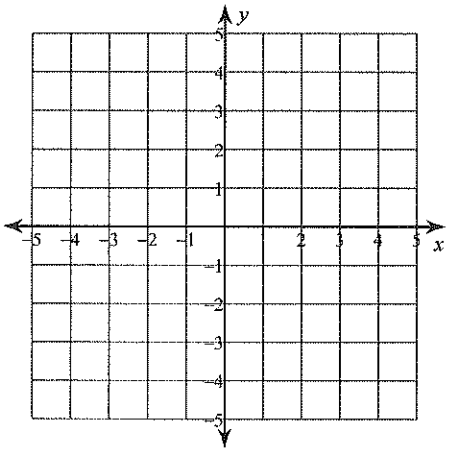
1) $6n + 5n = 8n - 3$

2) $-8k + 4(5 + k) = -4k - 4(1 - 3k)$

Solve each system by graphing.

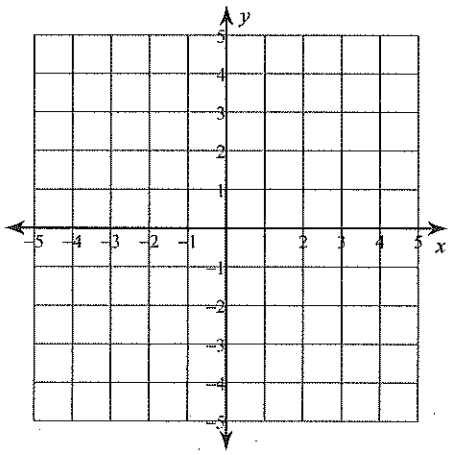
3) $x = -4$

$y = -\frac{3}{2}x - 3$



4) $y = -3x - 4$

$y = 5x + 4$



Solve each system by substitution.

5) $10x + 2y = 18$

$y = -5x + 9$

6) $-x - 3y = 2$

$y = 2x - 10$

Solve each system by elimination.

7) $-7x + 6y = 17$
$7x - 4y = -23$

8) $4x - 4y = -20$
$-2x + 4y = 24$

9) $-5x + 4y = 6$
$10x - 8y = -30$

10) $5x + 6y = 16$
$10x - 4y = 16$

11) $2x - 5y = 30$
$-7x + 6y = 10$

12) $8x - 4y = -4$
$-9x + 7y = -3$

Answers to Review Key Concepts - Day 3

1) $\{-1\}$ 2) $\{2\}$ 3) $(-4, 3)$ 4) $(-1, -1)$
5) Infinite number of solutions 6) $(4, -2)$ 7) $(-5, -3)$
8) $(2, 7)$ 9) No solution 10) $(2, 1)$ 11) $(-10, -10)$
12) $(-2, -3)$

P4 - Honors Advanced Algebra Name_____

Target 1C: Solve three variable systems

Date_____

Solve each system by elimination. Solve for x only.

1) $-5x + 3y - 6z = 9$
$5x - 3y + z = 11$
$-5x - 4y - z = -11$

Solve each system by elimination.

2) $-x - 3y - 2z = 1$
$4x - 3y + 2z = 26$
$x - 4y + 2z = 13$

3) $-3a - 6b + c = 4$
$-a + 5b - 6c = -5$
$5a - 5b + 2c = -3$

4) $2x + y = 13$
$4x - 2y - 5z = 7$
$-x + 6y + 3z = 9$

Answers to Target 1C: Solve three variable systems

1) $x = 3$

2) $(5, -2, 0)$

3) $(-1, 0, 1)$

4) $(6, 1, 3)$

P5 Honors Advanced Algebra Name_____

Walk Around Station Activity

Date_____

Evaluate each using the values given.

1) $4 - pm \div 6$; use $m = 3$, and $p = 4$

2) $(6x(3 + y)) \div 6 - (z - 4)$; use $x = 3$, $y = 5$, and $z = 6$

Simplify each expression.

3) $9x(-4 - 10x)$

4) $-4(m - 3) - 3(m + 9)$

Solve each equation.

5) $124 = 4(6m - 7) - 5m$

6) $13 + 8n = 7(5n - 2)$

Sketch the graph of each line.

7) $2x + 3y = -15$

Write the standard form of the equation of each line.

8) $y = \frac{9}{4}x - 5$

Write the slope-intercept form of the equation of the line through the given point with the given slope.

9) through: $(3, -2)$, slope $= \frac{2}{3}$

Write the slope-intercept form of the equation of the line through the given points.

10) through: $(0, -2)$ and $(1, -2)$

Write the slope-intercept form of the equation of the line described.

11) through: $(4, 0)$, parallel to $y = -\frac{1}{2}x + 4$

Solve each system by substitution.

12) $x + 4y = -5$
$5x - 7y = 2$

Solve each system by elimination.

13) $-8x + 6y = 22$
$8x - 5y = -25$

14) $8x\ 6\ y = -19$
$2x - 2y = -16$

15) $-6x\ 6\ 4y = -8$
$-4x - 9y = -17$

Answers to Walk Around Station Activity

1) 2

2) 22

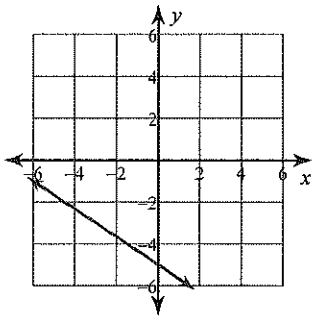
3) $-36x - 90x^2$

4) $-7m - 15$

5) $\{8\}$

6) $\{1\}$

7)



8) $9x - 4y = 20$

9) $y = \frac{2}{3}x - 4$

10) $y = -2$

11) $y = -\frac{1}{2}x + 2$

12) $(-1, -1)$

13) $(-5, -3)$

14) $(-3, 5)$

15) $(2, 1)$

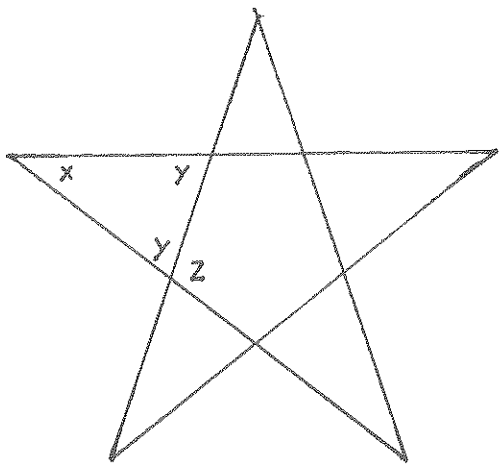
Practice 6 Name: _____

Reasoning How do you decide whether substitution is the best method to solve a system in three variables?

Error Analysis A classmate says that the system consisting of $x = 0$, $y = 0$, and $z = 0$ has no solution. Explain the student's error.

Finance A worker received a $10,000 bonus and decided to split it among three different accounts. He placed part in a savings account paying 4.5% per year, twice as much in government bonds paying 5%, and the rest in a mutual fund that returned 4%. His income from these investments after one year was $455. How much did the worker place in each account?

Geometry Refer to the regular five-pointed star at the right. Write and solve a system of three equations to find the measure of each labeled angle.



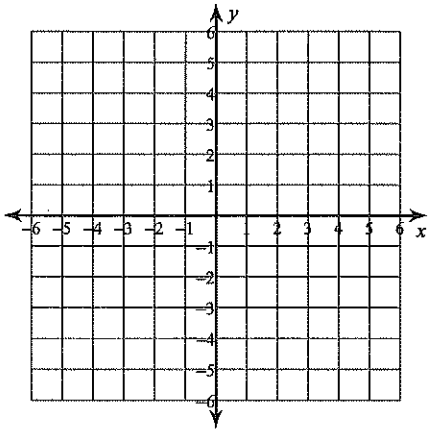
P7-Honors Advanced Algebra Name _____

Target 1A

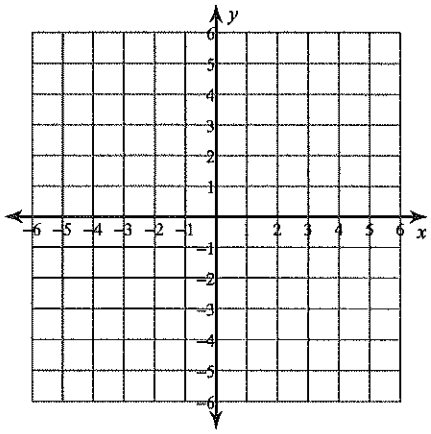
Date _____

Graph each equation. Then state the domain and range of each.

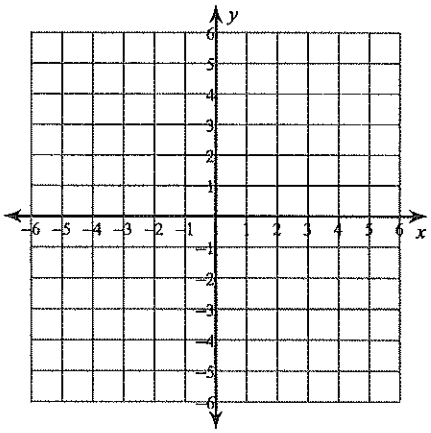
1) $y = 2|x - 4| - 3$



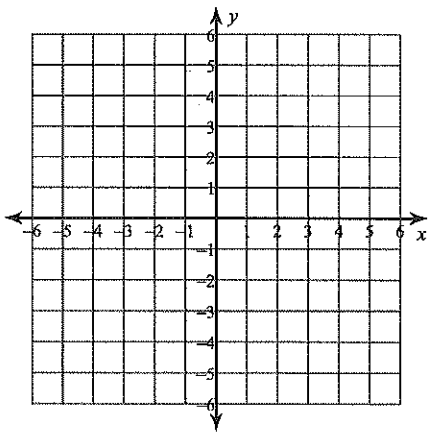
2) $y = -2|x - 1| + 2$



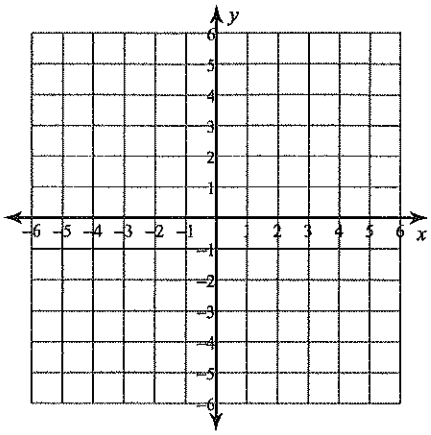
3) $y = 2|x + 1| + 3$



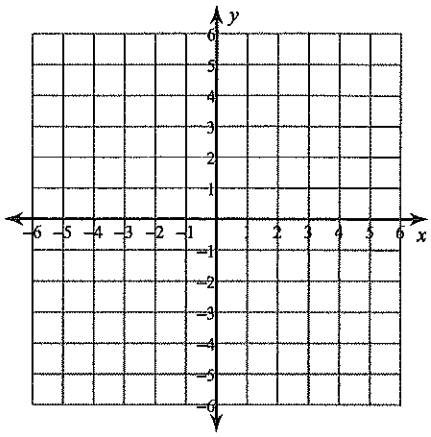
4) $y = -3|x + 4| - 3$



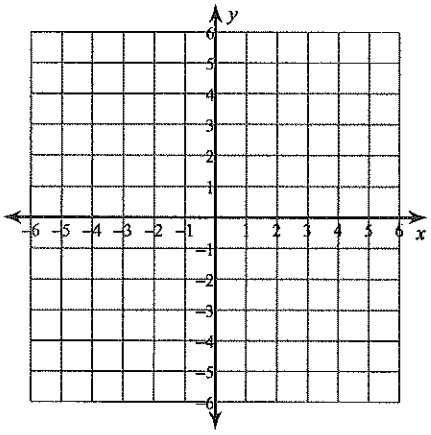
5) $y = |x| + 2$



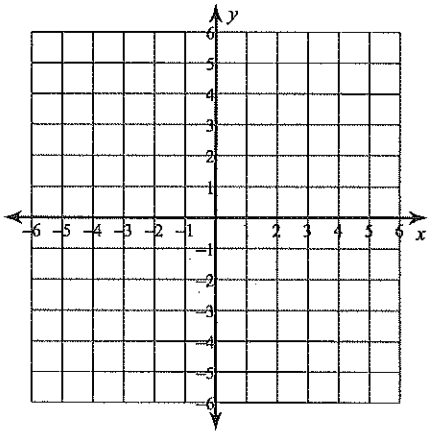
6) $y = -|x + 1|$



7) $y = 3|x - 1|$



8) $y = -2|x| + 3$



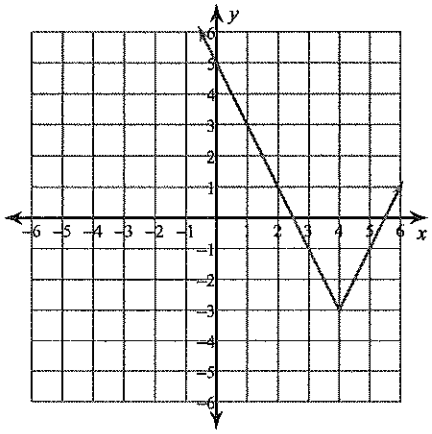
P7-Honors Advanced Algebra Name _____

Target 1A

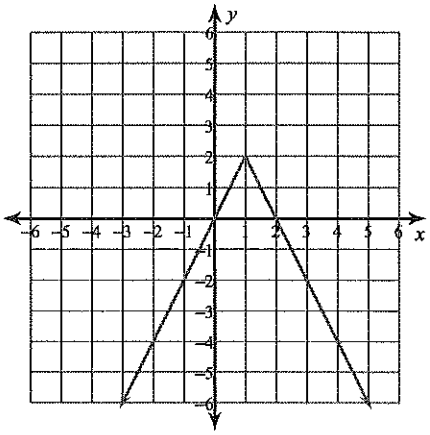
Date _____

Graph each equation. Then state the domain and range of each.

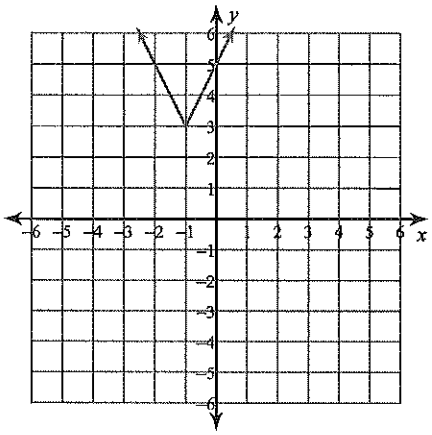
1) $y = 2|x - 4| - 3$



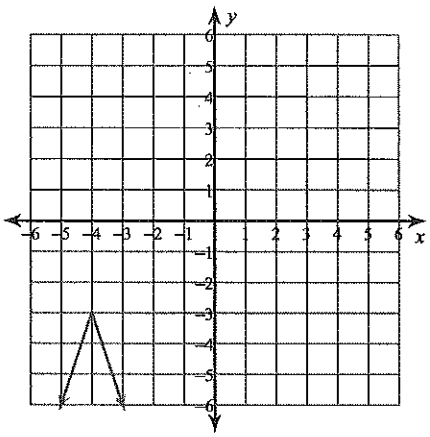
2) $y = -2|x - 1| + 2$



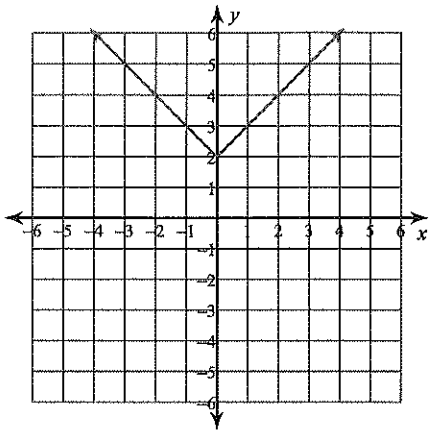
3) $y = 2|x + 1| + 3$



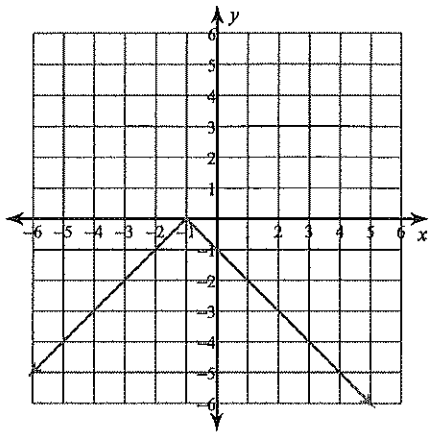
4) $y = -3|x + 4| - 3$



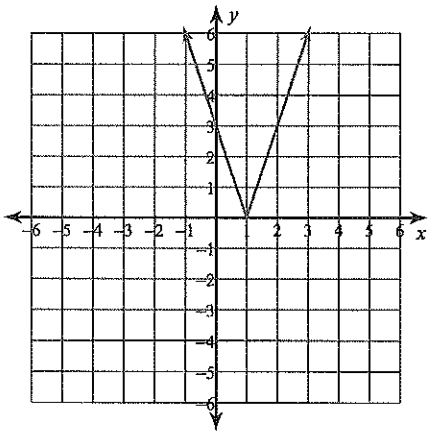
5) $y = |x| + 2$



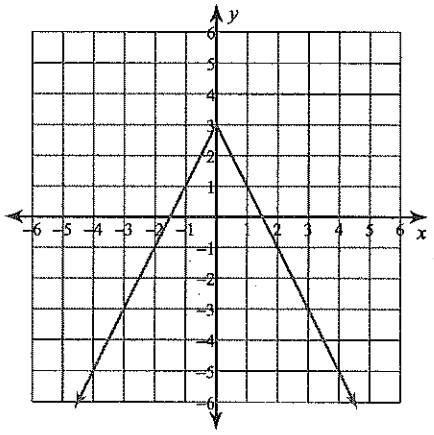
6) $y = -|x + 1|$



7) $y = 3|x - 1|$



8) $y = -2|x| + 3$

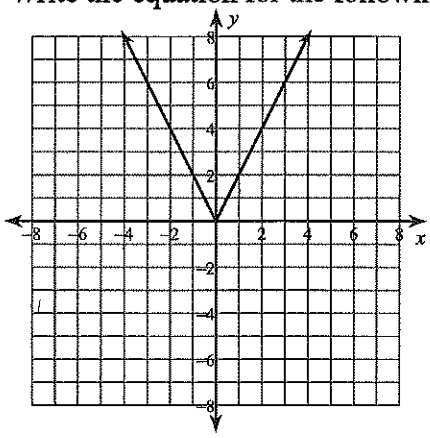


Name_____

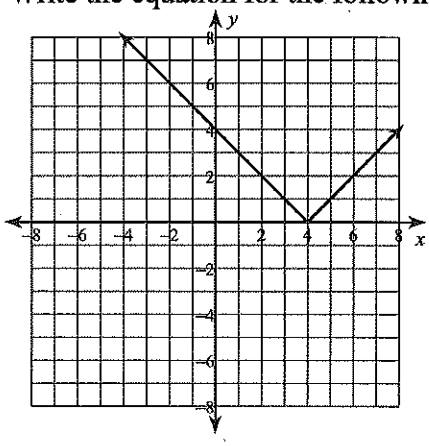
Target 1A: Create equation of Absolute Value Graph

Date_____ Period____

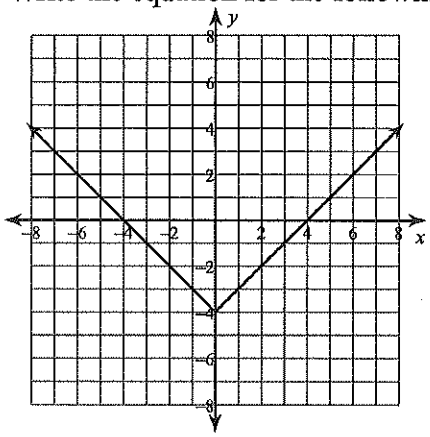
1) Write the equation for the following function.



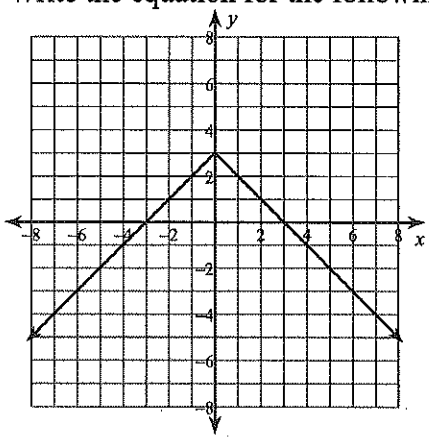
2) Write the equation for the following function.



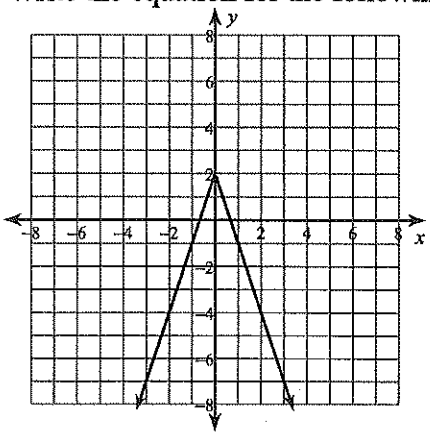
3) Write the equation for the following function.



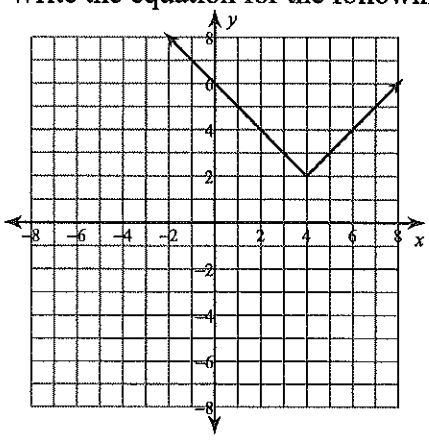
4) Write the equation for the following function.



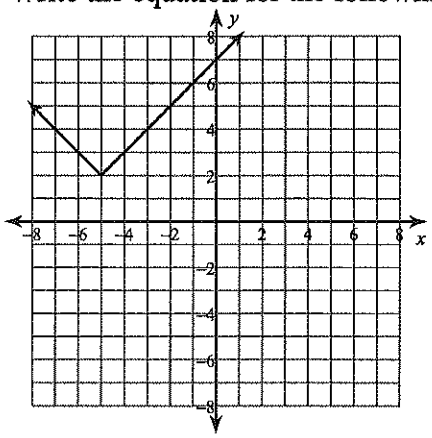
5) Write the equation for the following function.



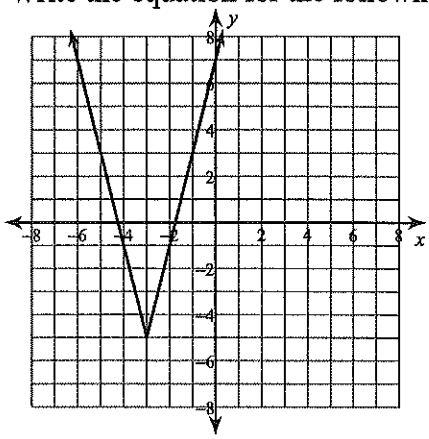
6) Write the equation for the following function.



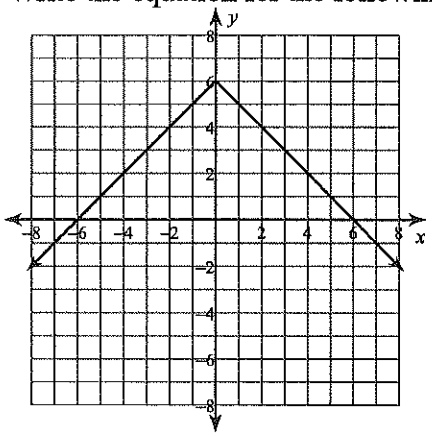
7) Write the equation for the following function.



8) Write the equation for the following function.



9) Write the equation for the following function.



Answers to Target 1A: Create equation of Absolute Value Graph

1) $f(x) = 2|x|$
2) $f(x) = |x - 4|$
3) $f(x) = |x| - 4$
4) $f(x) = -|x| + 3$
5) $f(x) = -2|x| - 2$
6) $f(x) = |x - 4| + 2$
7) $f(x) = |x + 5| + 2$
8) $f(x) = 4|x + 3| - 5$
9) $f(x) = -|x| + 6$

P9 & P10 Honors Advanced Algebra Name: _____

Evaluate the function for the given value of x.

$f(x) = \begin{cases} 3, & \text{if } x \le 0 \\ 2, & \text{if } x > 0 \end{cases}$ $g(x) = \begin{cases} x + 5, & \text{if } x \le 3 \\ 2x - 1, & \text{if } x > 3 \end{cases}$ $h(x) = \begin{cases} \frac{1}{2}x - 4, & \text{if } x \le -2 \\ 3 - 2x, & \text{if } x > -2 \end{cases}$

1. $f(2)$ **2.** $f(-4)$ **3.** $f(0)$ **4.** $f\left(\frac{1}{2}\right)$

5. $g(7)$ **6.** $g(0)$ **7.** $g(-1)$ **8.** $g(3)$

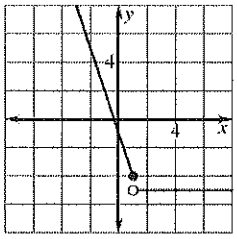
9. $h(-4)$ **10.** $h(-2)$ **11.** $h(-1)$ **12.** $h(6)$

Match the piecewise function with its graph.

13. $f(x) = \begin{cases} x - 4, & \text{if } x \le 1 \\ 3x, & \text{if } x > 1 \end{cases}$ **14.** $f(x) = \begin{cases} x + 4, & \text{if } x \le 0 \\ 2x + 4, & \text{if } x > 0 \end{cases}$ **15.** $f(x) = \begin{cases} 3x - 2, & \text{if } x \le 1 \\ x + 2, & \text{if } x > 1 \end{cases}$

16. $f(x) = \begin{cases} 2x + 3, & \text{if } x \ge 0 \\ x + 4, & \text{if } x < 0 \end{cases}$ **17.** $f(x) = \begin{cases} 3x - 1, & \text{if } x \ge -1 \\ -5, & \text{if } x < -1 \end{cases}$ **18.** $f(x) = \begin{cases} -3x - 1, & \text{if } x \le 1 \\ -5, & \text{if } x > 1 \end{cases}$

A.



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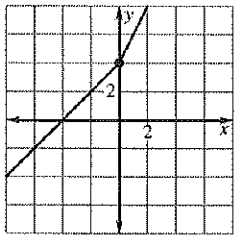
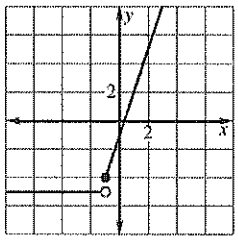
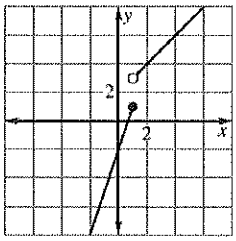


C.



D.



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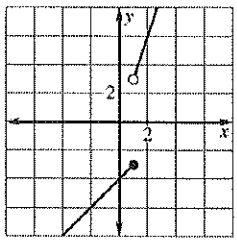
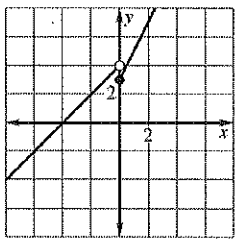
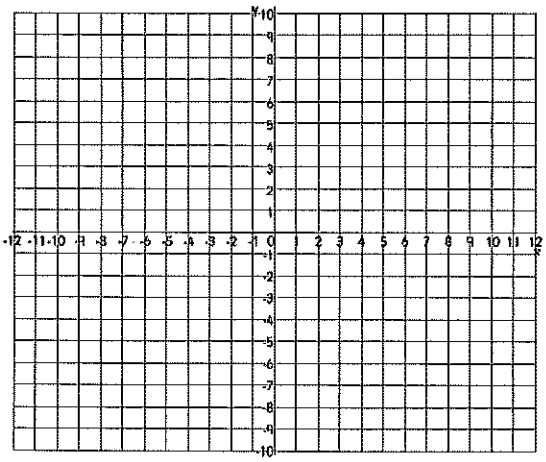


F.



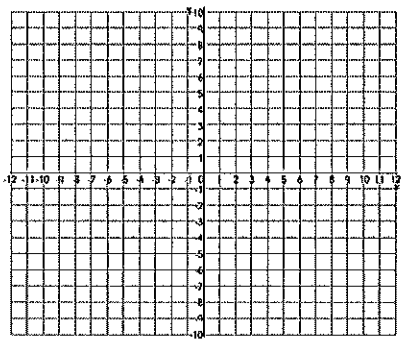
19. $f(x) = \begin{cases} -4, & -7 < x \le -4 \\ -2, & -4 < x \le -1 \\ 0, & -1 < x \le 2 \\ 2, & 2 < x \le 5 \\ 4, & 5 < x \le 8 \end{cases}$



Graph the function.

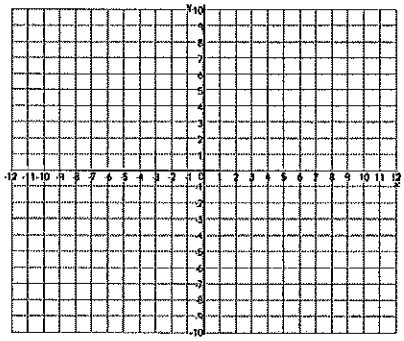
20.

$$f(x) = \begin{cases} x + 3, & \text{if } x \le 0 \\ 2x, & \text{if } x > 0 \end{cases}$$



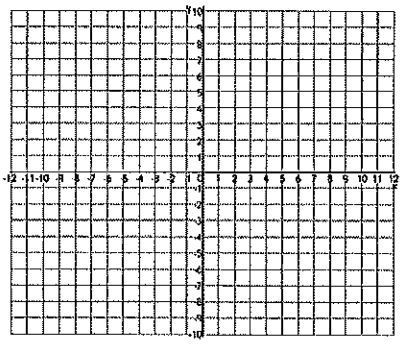
21.

$$f(x) = \begin{cases} x + 1, & \text{if } x < 0 \\ -x + 1, & \text{if } 0 \le x \le 2 \\ x - 1, & \text{if } x > 2 \end{cases}$$



22.

$$f(x) = \begin{cases} 2, & \text{if } x \le -3 \\ -1, & \text{if } -3 < x < 3 \\ 3, & \text{if } x \ge 3 \end{cases}$$



23. The admission rates at an amusement park are as follows.

Children 5 years old and under: free
Children between 5 years and 12 years, inclusive: $10.00
Children between 12 years and 18 years, inclusive: $25.00
Adults: $35.00

a) Write a piecewise function that gives the admission price for a given age.
b) Graph the function.