

ALGEBRA 2 CHAPTER 1 TEST REVIEW

1. Complete the table and find the output when the input is  $n$ .

Input	Process	Output
1	4-1	4
2	4-2	8
3	4-3	12
15		60
$n$		

2. Place a check for each column the number is a part of

Number	Real	Whole	Natural	Integer	Rational	Irrational
$6.1\pi$	✓					✓
$-4/5$	✓				✓	
$\sqrt{64}$	✓	✓	✓	✓	✓	
0	✓	✓		✓	✓	

3. Compare the two numbers. variable Use < and >.

a)  $-\sqrt{7} > -7$       b)  $3 < 1/3$

4. Simplify by combining like terms.

a)  $8r - 3s - 5r$       b)  $8r - (3s - 5r)$   
 $3r - 3s$        $8r - 3s + 5r$   
 $13r - 3s$

6. Solve the equation.

a)  $-4y - 5 = 12 - 8y$   
 $+8y \quad +8y$   
 $4y = 17$   
 $y = \frac{17}{4}$

5. Evaluate each expression for the given values of the

a)  $2x(x-1) - x^2$  for  $x=10$   
 $2x^2 - 2x - x^2 = x^2 - 2x$   
 $10^2 - 2 \cdot 10 = 100 - 20 = 80$

b)  $\frac{5}{3}(3x-6) - (6-4x)$  for  $x=5$   
 $5x - 10 - 6 + 4x$   
 $9x - 16 =$   
 $9 \cdot 5 - 16 = 45 - 16 = 29$

b)  $-5y - 1 = -(y+7)$   
 $-5y - 1 = -y - 7$        $-4y = -6$   
 $+y \quad +y$        $y = \frac{3}{2}$   
 $-4y - 1 = -7$

7. Determine whether the equation is sometimes, always, or never true.

a)  $1 + 5x - 6 = 6x - 5 - x$

$5x - 5 = 5x - 5$   
 Always True

b)  $-x + 2(5x-1) = 2(3x+4) + x$

$-x + 10x - 2 = 6x + 8 + x$   
 $9x - 2 = 7x + 8$       *SOMETIMES TRUE*  
 $2x = 10$        $x = 5$

8. Solve for  $x$ . State any restrictions on the variables.  
 $ax + bx - 4 = -9$

$x(a+b) - 4 = -9$

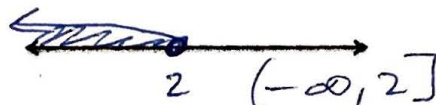
$x(a+b) = -5$

$x = \frac{-5}{a+b}$

9. Solve the inequality. Graph the solution set and write it using set notation.

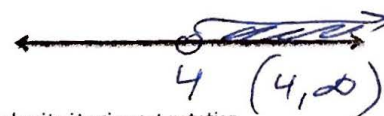
a.  $8 + 4k \leq 16$

$4k \leq 8$   
 $k \leq 2$



b.  $5(2b+2) < 2 + 12b$

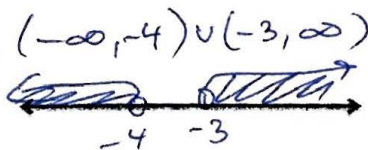
$10b + 10 < 2 + 12b$   
 $-2b < -8$        $b > 4$



10. Solve the compound inequality. Graph the solution set and write it using set notation.

a.  $10x - 3 < -43$  or  $7x + 11 > -10$

$10x < -40$        $7x > -21$   
 $x < -4$        $x > -3$



b.  $-8 \leq 2x - 4 < 6$

$-8 \leq 2x - 4$        $2x - 4 < 6$   
 $-4 \leq 2x$        $2x < 10$   
 $-2 \leq x$        $x < 5$   
 $x \geq -2$



11. Solve the absolute value equation.

a.  $|2x + 5| = 9$

$2x + 5 = 9$        $2x + 5 = -9$   
 $2x = 4$        $2x = -14$   
 $x = 2$        $x = -7$

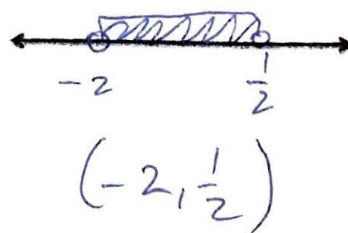
b.  $\frac{1}{3}|3x - 6| - 2 = 5$

$|3x - 6| = 21$   
 $3x - 6 = 21$        $3x - 6 = -21$   
 $3x = 27$        $3x = -15$   
 $x = 9$        $x = -5$

12. Solve the absolute value inequality. Graph the solution set and write it using set notation.

a.  $|4x + 3| < 5$

$4x + 3 < 5$        $4x + 3 > -5$   
 $4x < 2$        $4x > -8$   
 $x < \frac{1}{2}$        $x > -2$



b.  $|2x + 6| \geq 10$

$2x + 6 \geq 10$        $2x + 6 \leq -10$   
 $2x \geq 4$        $2x \leq -16$   
 $x \geq 2$        $x \leq -8$

