Name_____ Period____ Date_____
Algebra 2: Review Worksheet A
Topic 1: Review of Basic Algebra

Directions: Calculators are not allowed.

1) Give the reciprocal of each of the following numbers.

A) $\frac{6}{7}$ B) 3

C) $-\frac{8}{5}$ D) $-2\frac{1}{2}$

2) Give the opposite of each of the following numbers.

A) $-3\frac{1}{2}$ B) 5 C) $\frac{1}{2}$

3) Use the distributive property to remove the parentheses from each expression.

A) $6(2c + 3)$ B) $3(6y - 2)$

C) $-4(7 - 8x)$ D) $(3n - 9)2$

E) $a(b + 5)$ F) $-3(2a + b)$

4) A) What is the product of -9 and 4?

B) What is the sum of 5 and $3\frac{1}{2}$?

C) What is the quotient of 8 and -4?

D) What is the quotient or -4 and 8?

E) What is the difference of -8 and 5?

F) What is the difference of 5 and -8?

5) Evaluate.

A) $4x^2 - x + 3$ when $x = -3$ B) $2a^2 + (a - b)$ when $a = 3$ and $b = -1$

C) $(2 - 5n) \div n^2$ when $n = 2$ D) $8y - 3c^2$ when $y = \frac{1}{4}$ and $c = -1$

6) Sketch a number line graph of each of the following inequalities.

A) $-1 < x < 4$ B) $x > 3$ or $x \leq -2$

7) Solve for the specified variable.

A) Solve for T: $P = \pi T$

B) Solve for n: $5n + 2k = 8$

C) Solve for B: $A = \frac{1}{2}Bh$

D) Solve for c: $A = 5(c - b)$

E) Solve for y: $ay - 3y = n$

F) Solve for x: $c^2x + 7x = T$

G) Solve for P: $L = Pn^3 + P$

H) Solve for m: $A = \frac{2}{3}(m + c)$

8) Solve for the variable in each of the following equations.

A) $5(x - 3) + 5 = -1$

B) $8x - (2x - 5) = 3x + 4$

C) $\frac{3}{4}n + \frac{1}{6}n = 4$

D) $-3(2 - 2y) + (3y - 1) = 2(4 - 2y)$

9) Solve for the variable in each of the following inequalities.

A) $4c - 3 < 9$

B) $-8y + 2(y - 3) \geq 12$

C) $5n + 8 > 3n + 2$

D) $-y - (3y + 7) \leq 2(y + 1)$

E) $2 + (1 - x) > 4(2x - 3)$

F) $-\frac{1}{8}y + 2 \leq -5$

10) Solve for x in each of the following absolute value equations and inequalities.

A) $|3x + 2| = 10$

B) $\left|\frac{1}{2}x - 4\right| = 2$

C) $3|-2x + 3| = 6$

D) $5|x - 4| - 1 = 9$

E) $|3x + 5| \leq 1$

F) $|6 - 3x| > 6$

G) $3|2x - 4| < 9$

H) $2|6 + 2x| - 4 \geq 8$

I) $5 - 2|x - 3| = -3$

J) $3 + 2|x + 1| = 5$

K) $\frac{|x-5|}{2} < 3$

L) $\frac{|x+2|}{6} \geq 1$

M) $\left|\frac{2x+7}{5}\right| \leq 3$

N) $\left|\frac{4x-4}{3}\right| > 8$