

Topic 1

# ALGEBRA 2 POWERPOINTS

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# Warm Up

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1. Simplify:  $-4(1-3n) - (n+5) = 5(2-7n)$

$$19/46$$

2. Evaluate:  $-2x^2 + 4y^2 - x$ , when  $x = -2$  and  $y = 1$

$$-3$$

3. What is the quotient of  $-45$  and  $-9$   $5$

4. Solve for  $a$ .  $ax^2 - 7a = 13$   $\frac{13}{x^2 - 7}$

5. Solve and Graph:  $-\frac{1}{4}x + 6 > 3$



1. Give the reciprocal of the following numbers:

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A. )  $5/3$        $3/5$

B. )  $6$        $1/6$

C. )  $-7/3$        $-3/7$

D. )  $-4 \frac{1}{6}$        $-6/25$

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

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A. )  $5/3$        $-5/3$

B. )  $6$        $-6$

C. )  $-7/3$        $7/3$

D. )  $-4 \frac{1}{6}$        $4 \frac{1}{6}$

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

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A. )  $3(c+3)$        $3c+9$

B. )  $5(6y-7)$        $30y-35$

C. )  $-2x(4-5x)$        $-8x+10x^2$

D. )  $(5x - 7)(4)$        $20x - 28$

E. )  $x(y+8)$        $xy+8x$

F. )  $-4(3a+9)$        $-12a-36$

4A.) What is the product of -5 and 2?  
-10

4B.) What is the sum of 3 and  $4\frac{1}{2}$ ?  
 $7\frac{1}{2}$

4C.) What is the quotient of 12 and -4?  
-3

4D.) What is the quotient of -4 and 12?  
 $-\frac{1}{3}$

4E.) What is the difference of -9 and 5?  
-14

4F.) What is the difference of 5 and -9?  
14



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

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A. )  $-5 < x < 10$



B. )  $x > 7$  or  $x \leq -5$



7. Solve for the specific variable.

A. ) Solve for  $\pi$ .  $C = \pi d$

B. ) Solve for  $k$ .  $3n + 6k = 18$

C. ) Solve for  $b_1$ .  $A = \frac{1}{2}h(b_1 + b_2)$

D. ) Solve for  $c$ .  $d = 6(2c - x)$

E. ) Solve for  $a$ .  $ax + ay = w$

F. ) Solve for  $x$ .  $b^2x - 4x = 2$

G. ) Solve for  $P$ .  $F = pr^2 + pt$

H. ) Solve for  $m$ .  $K = \frac{3}{4}(b + m)$

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

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A. )  $7(x-2)+4=23$        $x = 33/7$

B. )  $4x-(2x-4)=3x + 6$        $x = -2$

C. )  $2/3n+1/5n = 26$        $n = 30$

D. )  $2(-4-3y)-(2y-1)=5(3-6y)$        $y = 1$

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

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A. )  $8c - 6 < 18$        $c < 3$

B. )  $-4y + 2(y - 4) \geq 12$        $y \leq -10$

C. )  $10n + 16 > 5n - 6$        $n > 22/5$

D. )  $-y - (4y + 6) \leq -(y + 6)$        $y \geq 0$

E. )  $5 + (2 - x) > 2(4x - 8)$        $x < 23/9$

F. )  $-1/3 y + 6 \leq -7$        $y \geq 39$

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

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A. )  $|6x + 4| = 20$       $x = 16/6, x = -4$

B. )  $|1/3 x - 6| = 7$       $x = 39, x = -3$

C. )  $3|-4x + 5| = 75$       $x = -5, x = 15/2$

D. )  $5|2x - 4| - 3 = 12$       $x = 7/2, x = 1/2$

E. )  $5 - 8|x - 5| = -11$       $x = 7, x = 3$

F. )  $4 + 3|x - 2| = 19$       $x = 7, x = -3$

11. Solve for x in each of the following absolute value inequalities

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$$A. ) |2x + 4| \leq 20$$

$$F. ) \frac{|x+4|}{7} \geq 2$$

$$B. ) |3 - x| > 2$$

$$G. ) \frac{|4x+3|}{2} \leq 4$$

$$C. ) 3|-4x-8| < 12$$

$$D. ) 4|3+x|-5 \geq 15$$

$$H. ) \frac{|5x-5|}{3} > 8$$

$$E. ) \frac{|x-5|}{3} < 6$$