Section 1 - Absolute Value

1. What is the solution(s) to the equation given below?

$|4x + 6| = 18$

I. 3
II. 6
III. -6

a. I and II
b. II and III
c. I and III
d. I, II and III

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2. What two values would make the equation below true?

$2|-3x + 6| = 36$

a. -4, 8
b. -8, 4
c. -10, 14
d. -22, 26

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3. How many correct answers are there for the equation written below?

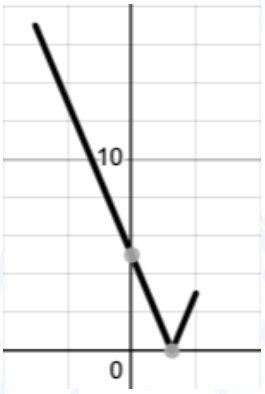
$|5x + 4| = -21$

a. Zero
b. One
c. Two
d. Not enough information is provided

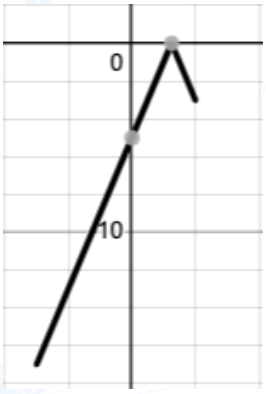
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4. What would the graph of $y = |4x - 5|$ look like when $-3 \leq x \leq 2$?

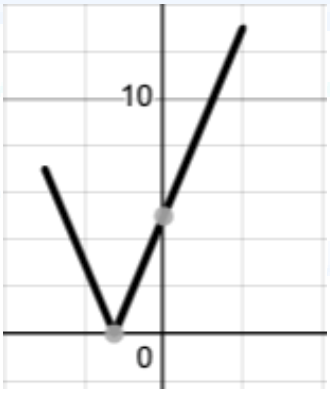
a.



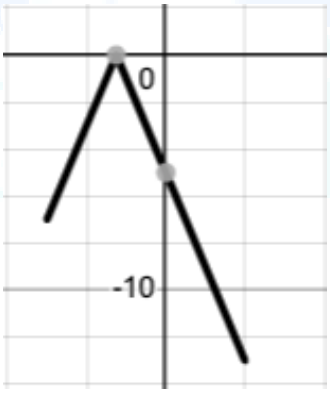
b.



c.



d.



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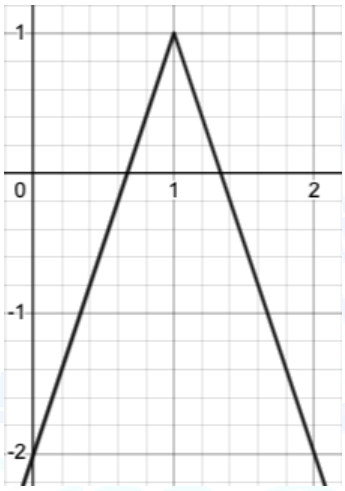
5. Which different integer values satisfy the equation written below?

$$|-5x + 10| < 15$$

a. -1, 0, 1, 2, 3, 4, 5
b. 0, 1, 2, 3, 4
c. -5, -4, -3, -2, -1, 0, 1
d. -4, -3, -2, -1, 0

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6. Which equation represents the graph below?



a. $y = -|3x - 3| + 1$
b. $y = -|3x + 3| - 1$
c. $y = |3x - 3| + 1$
d. $y = |3x + 3| - 1$

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7. Which of the following expressions is equal to -8 for some value of x?

   a. $|x - 12| - 12$
   b. $|x - 14| + 6$
   c. $|x + 12| - 4$
   d. $|x + 12| + 8$

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8. Ian needs to make a fence around his rectangular yard. He can't remember the exact perimeter of the yard, but he does know the perimeter of the yard measures in between 260 - 280 feet . Which inequality best represents the given situation?

   a. $|x - 270| < 5$
   b. $|x - 270| < 10$
   c. $|x - 260| < 20$
   d. $|x - 280| < 20$

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9. Given the equation below, which value does not fall within the range on the xy-coordinate plane?

   $y = -|x| + 2$

   a. 0
   b. 1
   c. 2
   d. 3

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10. What is the product of the two solutions to the given equation below?

$|2x - 6| = 2$

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11. How many different integers make the equation given below true?

$|x + 5| < 2$

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12. If a and b are the solutions to the given equation $-5|-2x + 6| = -50$, what is the value of $a^2 + b^2$?

END OF SECTION

ANSWER KEY	
Section 1	
Absolute Value	
1. C	7. A
2. A	8. B
3. A	9. D
4. A	10. 8
5. B	11. 3
6. A	12. 68

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