

Name \_\_\_\_\_

Date \_\_\_\_\_

## 8 Algebra CC – Spiral Set C

Part I. Multiple Choice. Directions: Place the answers to the questions in the boxes below.

1.	2.	3.	4.	5.	6.	7.
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1) Which inequality is equivalent to  $\frac{3x}{2} - 6 < 9$ ?

- (1)  $x < 7$             (3)  $x < 2$   
(2)  $x < 8$             (4)  $x < 10$

2) For which value of  $x$  is  $\frac{1}{x-9}$  undefined?

- (1) -9            (2) 3            (3) 0            (4) 9

3) Solve for  $x$ :  $\frac{x}{2} = \frac{3x-1}{5}$ 

- (1) 2            (3) -2  
(2) 1            (4) -1

4) The sum of two consecutive integers is 62. Which equation **cannot** be used to solve this problem?

- (1)  $x + (x + 1) = 62$             (3)  $(x - 1) + x = 62$   
(2)  $(x + 5) + (x + 6) = 62$             (4)  $(x - 4) + (x - 2) = 62$

5) Which compound inequality statement represents the solution set graphed below?

- (1)  $-1 \leq x \leq 2$             (3)  $-1 < x < 2$   
(2)  $-1 > x > 2$             (4)  $-1 < x > 2$

6) Evaluate  $\frac{1}{4} km^2$  when  $k = -5$  and  $m = -6$ 

- (1) 45            (2) -45            (3) 225            (4) 56.25

7) For which value of  $M$  and  $N$  is  $M + N$  a rational number?

(1)  $M = \frac{1}{\sqrt{2}}$  and  $N = \frac{1}{\sqrt{10}}$

(3)  $M = \frac{1}{\sqrt{4}}$  and  $N = \frac{1}{\sqrt{9}}$

(2)  $M = \frac{1}{\sqrt{6}}$  and  $N = \frac{1}{\sqrt{4}}$

(4)  $M = \frac{1}{\sqrt{10}}$  and  $N = \frac{1}{\sqrt{25}}$

**Part II. Extended Response. Show all necessary work.**

8) Solve for  $x$ :

a)  $ax + 3b = 2f$

b)  $y = \frac{1}{2}px^2$

9) Given  $2x + ax - 7 > -12$ , determine the largest *integer* value of  $a$  when  $x = -1$ .

10) Jack is 27 years older than Susan. In 5 years' time he will be 4 times as old as she is then. Find Jack and Susan's present age.