

SPRING 2019 McNABB-GDCTM CONTEST ANSWER SHEET

Name: Key School: \_\_\_\_\_ Date: \_\_\_\_\_

Contest Taking (Circle One):

Pre-algebra Algebra I Geometry Algebra II Pre-calculus Calculus

DIRECTIONS:

1. You are NOT permitted to use a calculator or any other electronic device. You have 45 minutes for Pre-Algebra and Algebra I. For all others, you have 60 minutes.
2. All answers should be in standard simplified form unless otherwise stated. All variables are assumed to stand for real numbers unless otherwise stated.

1.  
210

6.  
3.12

11.  
780

2.  
14%

7.  
40

12.  
32,340

3.  
131

8.  
10,080

13.  
35

4.  
25,000

9.  
0

14.  
 $2^{99}$

5.  
2+3+47  
or others  
(check)

10.  
 $\frac{29}{900}$

15.  
70

SCORE: \_\_\_\_\_

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1.  $2^{33} \cdot 3^{30}$

6. 40

11.  $-\frac{9}{16}$

2. 10,080

7. 35

12. 77

3. 0

8. 930

13.  $2^{99}$

4. 3.12

9. 18

14. 70

5. (9, 4)  
or  
check other

10.  $x^2 + 2xy + y^2 - z^2$   
or any rearrangement

15.  $\frac{5}{2}$

SCORE: \_\_\_\_\_

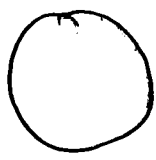
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1. 

6. 18

11.  $60^\circ$

2. 40

7. 70

12. 2520

3.  $29/900$

8.  $9/2$

13.  $6\sqrt{5}$

4.  $12\sqrt{2}$

9.  $2^{99}$

14. 4

5.  $140^\circ$

10.  $-1 + \sqrt{3}$

15.  $\pi + 5$

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1.  $2+3+47$   
or  
(check any other)

6.  $140^\circ$

11.  $\left(\frac{-3\sqrt{3}}{2}, \frac{3\sqrt{3}}{2}\right)$

2.  $131$

7.  $2\pi$

12.  $672$

3.  $3.12$

8.  $5/2$

13.  $15$

4.  $18$

9.  $12\sqrt{2}$

14.  $1+2i, 2-3i$   
need both

5.  $(0, \infty)$

10.  $80^\circ$

15.  $\frac{1}{2}, \frac{1}{\sqrt{2}}$   
need both

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1.

$$14\%$$

6.

$$12$$

11.

$$2520$$

2.

$$(9, 4)$$

check any other

7.

$$\pi + 5$$

12.

$$\frac{1}{2}, \frac{1}{\sqrt{2}}$$

need both

3.

$$-2 + 2i$$

8.

$$\begin{pmatrix} 16 & 0 \\ 0 & 16 \end{pmatrix}$$

13.

$$\pi / 16$$

4.

$$240 / 161$$

9.

$$81 / 2$$

14.

$$9\pi$$

5.

$$13$$

10.

$$70$$

15.

$$(a+c)(b+c) \cdot (a+b-c)$$

any order

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1.  $140^\circ$

6.  $3, -3, 0$

11.  $720\pi$

2.  $780$

7.  $-4$

12.  $28$

3.  $3/2$

8.  $\frac{3\sqrt{3}-4}{10}$

13.  $5/6$

4.  $-2/3$

9.  $10$

14.  $1/2$

5.  $y = \frac{53}{75}x - \frac{28}{25}$

10.  $\frac{1}{2} \ln\left(\frac{75}{51}\right)$   
or equivalent

15.  $[-4/27, 0]$

SCORE: \_\_\_\_\_