

Name \_\_\_\_\_

# Pre-calculus Summer Assignment

Directions: After you finish each question, please circle the number of the option below it, that tells us how you were able to complete the problem.

1) Factor the following expression completely:  $12x^3y - 18x^2y^3$

- 1 - I received significant help on this problem (What was your source of help \_\_\_\_\_)  
2 - I was able to do the problem with a little help (What was your source of help \_\_\_\_\_)  
3 - I was able to do the problem without any help

2) Factor the following expression completely:  $x^2 - x - 12$

- 1 - I received significant help on this problem (What was your source of help \_\_\_\_\_)  
2 - I was able to do the problem with a little help (What was your source of help \_\_\_\_\_)  
3 - I was able to do the problem without any help

3) Factor the following expression completely:  $6x^2 - 5x - 4$

- 1 - I received significant help on this problem (What was your source of help \_\_\_\_\_)  
2 - I was able to do the problem with a little help (What was your source of help \_\_\_\_\_)  
3 - I was able to do the problem without any help

4) Factor the following expression completely:  $4x^2 - 14x + 6$

- 1 - I received significant help on this problem (What was your source of help \_\_\_\_\_)  
2 - I was able to do the problem with a little help (What was your source of help \_\_\_\_\_)  
3 - I was able to do the problem without any help

5) Factor the following expression completely:  $9x^6 - 25c^8$

- 1 - I received significant help on this problem (What was your source of help \_\_\_\_\_)  
2 - I was able to do the problem with a little help (What was your source of help \_\_\_\_\_)  
3 - I was able to do the problem without any help

6) Factor the following expression completely:  $x^3 - 125c^9$

- 1 - I received significant help on this problem (What was your source of help \_\_\_\_\_)  
2 - I was able to do the problem with a little help (What was your source of help \_\_\_\_\_)  
3 - I was able to do the problem without any help

7) Find the equation of a circle with endpoints of a diameter at (-2, 6) and (4, -2)

- 1 - I received significant help on this problem (What was your source of help \_\_\_\_\_)  
2 - I was able to do the problem with a little help (What was your source of help \_\_\_\_\_)  
3 - I was able to do the problem without any help

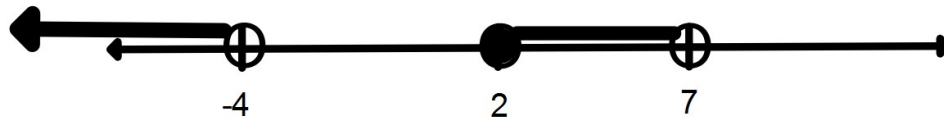
8) Find the equation of a line which is perpendicular to  $3x - 4y + 8 = 0$  and passes through the point (-6, 5).

- 1 - I received significant help on this problem (What was your source of help \_\_\_\_\_)  
2 - I was able to do the problem with a little help (What was your source of help \_\_\_\_\_)  
3 - I was able to do the problem without any help

9) Find the equation of a line which passes through the points (-8, -3) and (6, -7).

- 1 - I received significant help on this problem (What was your source of help \_\_\_\_\_)  
2 - I was able to do the problem with a little help (What was your source of help \_\_\_\_\_)  
3 - I was able to do the problem without any help

10) Write the solution shown on the number line graph below using interval notation.



- 1 - I received significant help on this problem (What was your source of help \_\_\_\_\_)
- 2 - I was able to do the problem with a little help (What was your source of help \_\_\_\_\_)
- 3 - I was able to do the problem without any help

11) Solve the following equation:  $2x + 3(x - 2) = 9x - (2x - 4)$

- 1 - I received significant help on this problem (What was your source of help \_\_\_\_\_)
- 2 - I was able to do the problem with a little help (What was your source of help \_\_\_\_\_)
- 3 - I was able to do the problem without any help

12) Solve the following equation:  $x^2 - 2x = 35$

- 1 - I received significant help on this problem (What was your source of help \_\_\_\_\_)
- 2 - I was able to do the problem with a little help (What was your source of help \_\_\_\_\_)
- 3 - I was able to do the problem without any help

13) Solve the following equation:  $x^2 = 4x + 2$

- 1 - I received significant help on this problem (What was your source of help \_\_\_\_\_)
- 2 - I was able to do the problem with a little help (What was your source of help \_\_\_\_\_)
- 3 - I was able to do the problem without any help

14) Solve the following equation algebraically:  $\sqrt{x-4} = -x+4$

- 1 - I received significant help on this problem (What was your source of help \_\_\_\_\_)  
2 - I was able to do the problem with a little help (What was your source of help \_\_\_\_\_)  
3 - I was able to do the problem without any help

15) Solve the following equation algebraically:  $|2x-1| = x+6$

- 1 - I received significant help on this problem (What was your source of help \_\_\_\_\_)  
2 - I was able to do the problem with a little help (What was your source of help \_\_\_\_\_)  
3 - I was able to do the problem without any help

16) Solve the following equation algebraically:  $\frac{5}{x+5} - \frac{3}{x-5} = \frac{6}{x^2-25}$

- 1 - I received significant help on this problem (What was your source of help \_\_\_\_\_)  
2 - I was able to do the problem with a little help (What was your source of help \_\_\_\_\_)  
3 - I was able to do the problem without any help

17) Simplify the following expression:  $\frac{1}{y} + \frac{4}{y^2-4} - \frac{2}{y^2-2y}$

- 1 - I received significant help on this problem (What was your source of help \_\_\_\_\_)  
2 - I was able to do the problem with a little help (What was your source of help \_\_\_\_\_)  
3 - I was able to do the problem without any help

18) Simplify the following expression:

$$\frac{\frac{4}{3x} + \frac{2}{x^2}}{4 - \frac{2}{x}}$$

- 1 - I received significant help on this problem (What was your source of help \_\_\_\_\_)  
2 - I was able to do the problem with a little help (What was your source of help \_\_\_\_\_)  
3 - I was able to do the problem without any help

19) Solve the inequality and express your answer in interval notation:  $x^2 - 10 < -3x$

- 1 - I received significant help on this problem (What was your source of help \_\_\_\_\_)  
2 - I was able to do the problem with a little help (What was your source of help \_\_\_\_\_)  
3 - I was able to do the problem without any help

20) Solve the inequality and express your answer in interval notation:  $|3x - 2| \geq 8$

- 1 - I received significant help on this problem (What was your source of help \_\_\_\_\_)  
2 - I was able to do the problem with a little help (What was your source of help \_\_\_\_\_)  
3 - I was able to do the problem without any help