

Name: _____

Algebra 3 with Trigonometry Summer Assignment

Answer the following questions in the space provided. Please place all answers on the lines to the left.

1) Find the slope of the line that passes through the points $(7, 4)$, $(-2, 6)$.

1) _____

2) Write the equation of the line in STANDARD FORM that passes through the points $(-2, 5)$ and $(4, 9)$.

2) _____

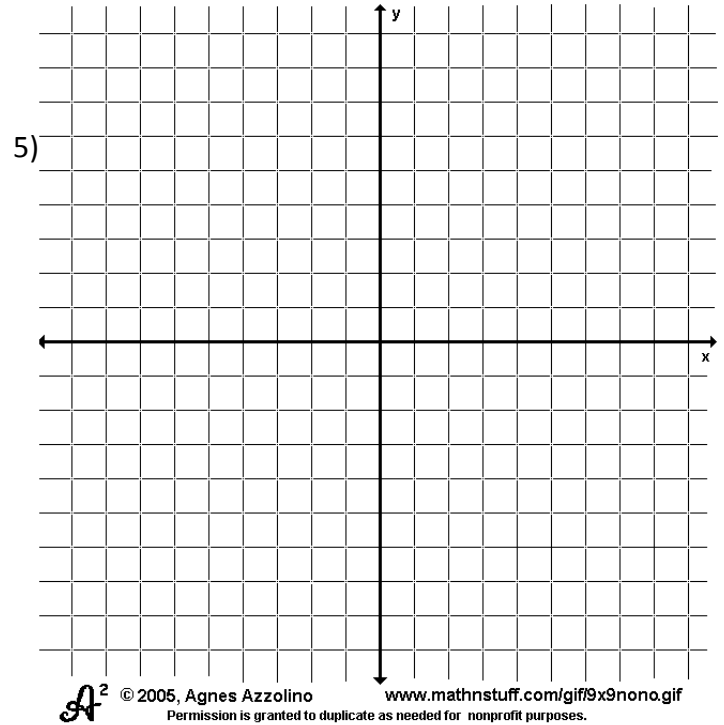
3) Write the equation of the line in SLOPE-INTERCEPT FORM that passes through the point $(-3, 2)$ and is PARALLEL to the line $y = 6x - 2$.

3) _____

4) Write the equation of the line in POINT-SLOPE FORM that passes through the point $(-3, 2)$ and is PERPENDICULAR to the line $y = 6x - 2$.

4) _____

5) Graph the equation $2x + 3y = -9$.



6) Solve the following system by using the ELIMINATION method:

$$3x - 2y = 10$$

$$5x + 3y = -15$$

6) _____

7) The drama club sold a total of 370 tickets to their spring production. Adult tickets cost \$8 each and student tickets cost \$5 each. If the amount sold was \$2540, how many adult tickets were sold?

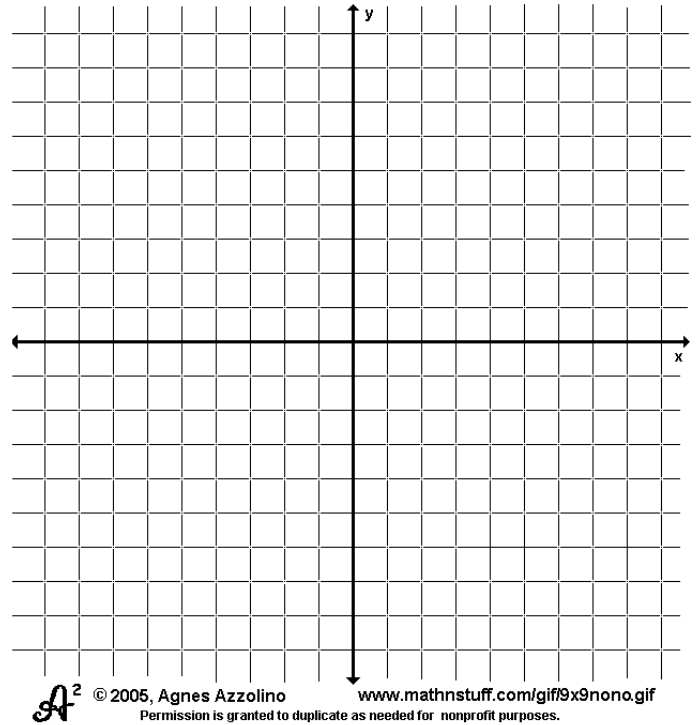
7) _____

8) Graph the following system of INEQUALITIES:

$$3x - 2y < 8$$

$$4x + y < -3$$

8)



9) Solve the following system of equations using ELIMINATION:

$$2x - 3y + 5z = 13$$

$$-3x + 3y - 2z = -8$$

$$5x - 2y + 4z = 2$$

9) _____

10) Factor $25x^2 - 121$.

10) _____

11) Solve the equation $4x^2 - 5x - 6 = 0$ by FACTORING.

11) _____

12) Solve $5(x - 3)^2 = 75$ by using SQUARE ROOTS.

12) _____

13) Solve $x^2 - 5x + 2 = 0$ by using COMPLETING THE SQUARE.

13) _____

14) Use the QUADRATIC FORMULA to solve the equation $3x^2 + 7x + 3 = 0$.

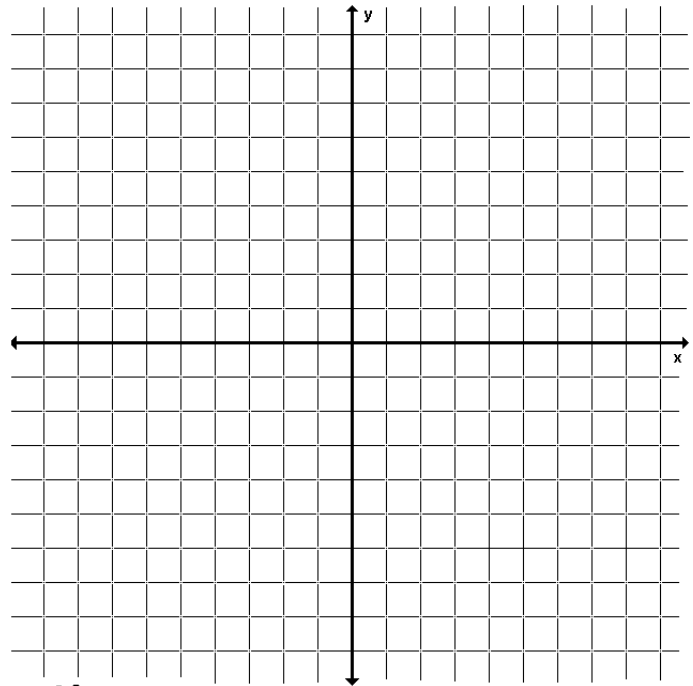
14) _____


15) Write the product of $(3 + 2i)(4 - 5i)$ as a COMPLEX NUMBER in STANDARD FORM.

15) _____

16) Graph the equation $y = 2x^2 - 4x + 1$

16)



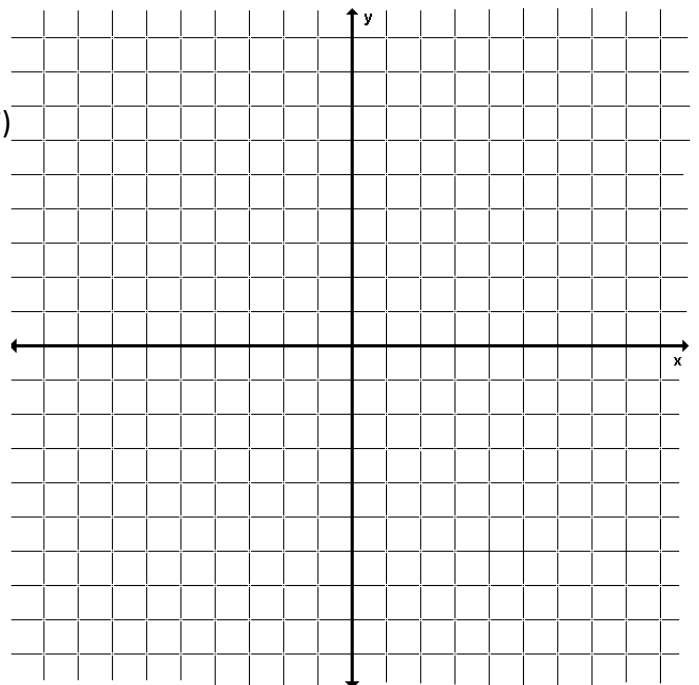
 © 2005, Agnes Azzolino www.mathnstuff.com/gif/9x9nono.gif
Permission is granted to duplicate as needed for nonprofit purposes.


17) Graph the SYSTEM OF INEQUALITIES:

$$y \geq x^2 + 5x + 3$$

$$y < -x^2 - 1$$

17)



 © 2005, Agnes Azzolino www.mathnstuff.com/gif/9x9nono.gif
Permission is granted to duplicate as needed for nonprofit purposes.

18) Evaluate the expression $32^{-2/5}$

18) _____

19) Simplify the expression $\left(\frac{-2x^3}{3y^{-2}}\right)^4$.

19) _____

20) Simplify $(-3x^{-5}y^2)^{-2}$.

20) _____

21) Multiply $(2x - 1)(3x^2 - 5x + 4)$.

21) _____

22) Factor $7x^3 - 56$ COMPLETELY.

22) _____

23) Find all the ZEROS (SOLUTIONS) of $f(x) = x^3 - 4x^2 - 11x + 30$.

23) _____

24) Divide $(x^5 - 3x^3 - 2x + 3) \div (x + 2)$.

24) _____

25) Simplify $\sqrt[4]{81x^6y^8}$.

25) _____

26) Find $f(g(x))$ using $f(x) = 3x - 5$ and $g(x) = 7x - 1$. Then state the DOMAIN and RANGE.

26) _____

Domain: _____

Range: _____

27) Write the equation for the inverse of $y = \frac{2}{3}x + 1$.

27) _____

28) Solve $3x^{3/4} = 375$.

28) _____

29) Solve $x - 5 = \sqrt{16x}$.

29) _____