

Pre-IB Algebra II/Trig Summer Assignment 2011

Your Pre-IB Algebra II/Trig summer assignment is attached. These problems are simply a review of Algebra 1 topics. Feel free to consult any text. The assignment is due no later than Monday, August 29, 2011 at noon in the main office at Oscar Smith High School.

Please show all of your supporting work on notebook paper and place your final answer/solution on the worksheet adjacent to the problem. Place all graphs on graph paper with the corresponding equation/inequality written above the graph. Finally, **please place your assignment in a folder** with your name printed clearly on the front along with "Pre-IB Algebra II/Trig."

Thank you!!

Have a nice summer, ☺ ☺ ☺

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Pre-IB Algebra II/Trig instructor

Name _____

Pre-IB Algebra II/Trig Summer Assignment 2011

Find the value of each expression.

1. $7 + 6 - 4$

2. $9(3^2 + 6)$

3. $11 - (3 + 2)^2$

4. $14 + (6 \div 2)$

5. $[18 - (6 + 4)] \div 2$

6. $[(7 - 2)(3 + 8)]$

Evaluate each expression if $a = 12$, $b = 4$, $c = 5$, $x = 0.5$ and $y = 3$.

7. $y - a \div b$

8. $8y + b^2(ay)$

9. $\frac{(abc \div x) - (6b^2 - 4)}{0.5}$

Fill in the blank with $<$, $>$ or $=$ to make each sentence true.

10. $-4 \underline{\hspace{1cm}} 8$

11. $-32 + 11 \underline{\hspace{1cm}} 21$

12. $-81 \underline{\hspace{1cm}} 1 + 80$

Simplify

13. $\frac{-9}{11} - \frac{13}{11}$

14. $\frac{5}{8} + \frac{1}{12}$

15. $\frac{3}{5} - \frac{5}{8} + \frac{1}{4}$

Solve each equation.

16. $3s = 45$

17. $17 = 9 - a$

18. $-8 = 2(z + 7)$

19. $6(2y + 3) = 7y - 9$

20. $3.5y + 2.5 = 20$

21. $-3a - 15 > 6$

22. $4(m - 5) > 5 - m$

23. $32 + 11r^2 < 17(r + r^2) - 6r^2$

24. $4x - 2 > -7(4x - 2)$

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Simplify.

25. $(-33m^3)(5a^4m^2)$

26. $(a^4)^5$

27. $(\frac{1}{2}m^4n^5)^2$

28. $\frac{1}{5}(-5a^2b^3)^2(abc)^4$

29. $m^7 \cdot m^8$

30. $\frac{24w^7t^4}{6w^9t^2}$

31. $\frac{66w^3x^6y^9}{-22wxy^7}$

32. $3(2a + 5c) - (2(4a - 6c))$

33. $2(a - 6)(2a + 7)$

34. $(2r + 7)^2$

35. $(2n^2 - 3)(n^2 + 5n - 1)$

36. $(3t^2 - 8)(t^2 + 5)$

37. $(5a + 7)(5a - 7)$

Factor.

38. $x^2 - 3x - 4$

39. $m^2 + 12m + 20$

40. $6r^2 + 19r + 10$

41. $25b^2 - 36$

42. $(x + y)^2 - w^2$

43. $x^2 - 15x - 100$

44. $9x^2 - 12x + 4$

45. $49b^2 - 126ab + 81a^2$

**** Please refer to the hard copy of this page for missing information.**

Name _____

Use the graphs below to answer each question. (Remember your transformations from geometry.)

The function $y = x$ is known as a basic function. Changing the equation of the function also changes the graph of the function.

1. Compare the graph of $y = \heartsuit x$ to the graphs of $y = \heartsuit x - 5$ and $y = \heartsuit x + 1$. How does changing the equation affect the graph?

2. Compare the graph of $y = \heartsuit x$ to the graphs of $y = \heartsuit (x - 5)$ and $y = \heartsuit (x + 1)$. How does changing the equation affect the graph?

3. Compare the graph of $y = \heartsuit x - 5$ and $y = \heartsuit (x - 5)$. How do the differences in the equations affect the movement of the graphs (as compared to the original graph of $y = \heartsuit x$) ?

Does the same type of relationship hold true when comparing the graphs of $y = \heartsuit x + 1$ and $y = \heartsuit (x + 1)$?

4. Compare the graph of $y = \heartsuit x$ to the graph of $y = -\heartsuit x$. How does changing the equation change the graph?

16. $x + \frac{1}{2}y = -\frac{1}{3}$

Y = _____

17. $4x - 5xy = 7$

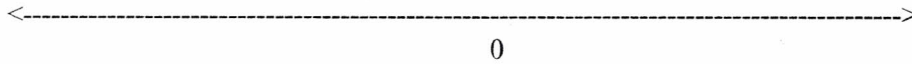
Y = _____

18. $x^2 + y = -4$

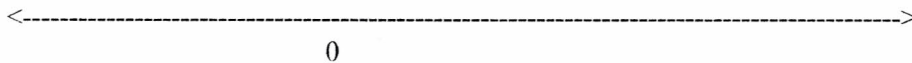
Y = _____

Solve the inequality. Then graph your solution on a number line.

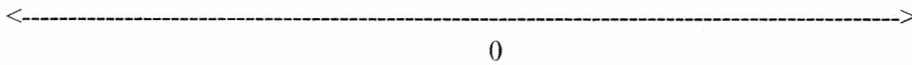
19. $4x - 7 \leq -11$



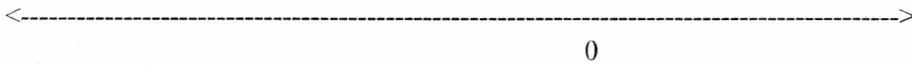
20. $6 - 2x > -x$



21. $-4 < x - 1 < 2$



22. $10 < -2x$ or $2x \geq 0$



23. The formula for the perimeter of a rectangle is $P = 2l + 2w$. Solve the formula for w .

W = _____

24. **Concert Tickets** Tickets for a certain concert are \$34.95 each. You and four of your friends go to the concert. You decide to pay for all the tickets, plus the \$10 parking fee. How much money will you spend?

25. **Numbers** Five times a number is greater than the number decreased by 12. Write these numbers as an inequality.

Graph the numbers on a number line. Then write the numbers in increasing order.

1. $\frac{9}{4}, -\sqrt{9}, \frac{4}{3}, \sqrt{4}, 0, -\frac{1}{3}$ 

Identify the property shown.

2. $5 + (-5) = 0$ _____

3. $2(x + 2) = 2x + 4$ _____

Select and perform an operation to answer the question.

4. What is the difference of -9 and -3 ? _____

5. What is the quotient of $\frac{3}{4}$ and $-\frac{1}{2}$? _____

Evaluate.

6. $-5^3 + 1$ _____

7. $x^3 + x^2 + x$ when $x = -3$ _____

Simplify.

8. $3x - (4y - 3x) - 4y$ _____

9. $x^3 + x^2 + x$ _____

Solve.

10. $7y - 14 = -7y + 14$ _____

11.

$\frac{1}{2}(4x + 8) = -4$ _____

12. $-3(x - 2) = 5(2x + 1)$ _____

13. $|x - 5| = 8$ _____

14. $|2x + 7| = 1$ _____

Solve the equation for y .

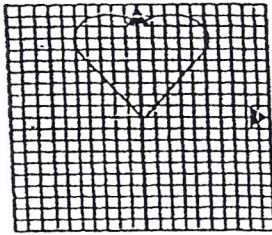
15. $2x - y = -4$

$Y =$ _____

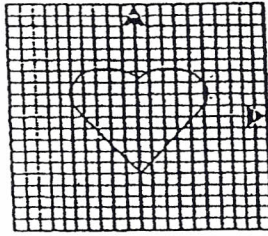
Pre-IB Algebra II/Trig
 Summer Assignment
 Concept Paper

Name: _____

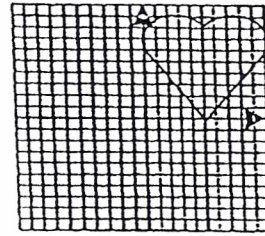
I. Use the graphs below to answer each question. (Remember your transformations from geometry.)



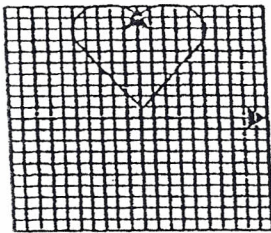
$$y = x^2$$



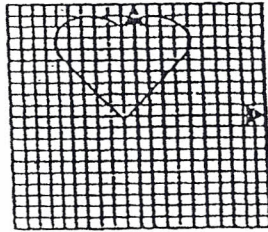
$$y = x^2 - 5$$



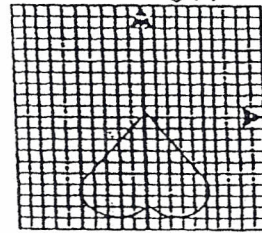
$$y = (x - 5)^2$$



$$y = x^2 + 1$$



$$y = (x + 1)^2$$



$$y = -x^2$$

The function $y = x^2$ is known as a basic function. Changing the equation of the function also changes the graph of the function.

1. Compare the graph of $y = x^2$ to the graphs of $y = x^2 - 5$ and $y = x^2 + 1$. How does changing the equation affect the graph?

2. Compare the graph of $y = x^2$ to the graphs of $y = (x - 5)^2$ and $y = (x + 1)^2$. How does changing the equation affect the graph?

3. Compare the graphs of $y = x^2 - 5$ and $y = (x - 5)^2$. How do the differences in the equations affect the movement of the graphs (as compared to the original graph of $y = x^2$)? Does the same type of relationship hold true when comparing the graphs of $y = x^2 + 1$ and $y = (x + 1)^2$?

4. Compare the graph of $y = x^2$ to the graph of $y = -x^2$. How does changing the equation change the graph?
