Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Pre-IB Geometry/Pre-IB Algebra 1

Summer Assignment

This summer assignment is for all incoming freshman in the IB/EC program. You need to complete this assignment whether you are taking Algebra 1 or going straight to Geometry. You only need to complete the assignment once.

Do all work in the boxes provided. Problems will be discussed during the first week of

class. This is due the first full day of school in August to your teacher, as this is a summer assignment. Answers should be simplest form – no decimals.

Find the value of each expression: (remember to use order of operations)

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| 1) 8 + 5 - 3  | 2) 9(42 + 6) | 3) 11 - (5 - 2)2 |
| 4) 14 + (9  3) | 5) [18 - (6 + 4)]  2  | 6) (9 - 2)  (3 + 4) |
| 7) 7 + 24 - 18 6  | 8) 7 · 6 + 3  3 - 5  | 9) 3 + (5 - 3)2 - 6  |

Evaluate each expression if *a* = 15,*b* = 5,*c* = 4,*x=*1/2, and *y* = 2.

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| --- | --- | --- |
| 10)   | 11) *cb*  *xb* | 12) 8*y* + *b*2(*ay*) |

13)  14)  15)

Simplify each equation

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| --- | --- |
|  16) | 17) 2*a* + 7*b* + 8*a* - 3*b* + 4*a* |
| 18) 10(3*x* - 2*y*) + 4(4*x* + 3*y*) |   19) |
| 20) 2*x*(3*y* - 4) + 5*y*(2*x* + 1) | 20) 3*x*(*x* + *y*) - 2*y*(2*x* - 5*y*) |

Solve each equation

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| 21) 4*x* = 16 | 22) 15 = 8 - *x* | 23) 6*x* - 1 = 7*x* - 3 |
| 24)  | 25)  | 26) -2 = -(*x* + 8) |
|  27)  | 28)  | 29) 2*x* - 5 = 8 |
| 30) 3 - 5*x* = -25 | 31) 4(2*x* - 3) = 3*x* - 7 | 32) *x* + 15 = 31 |

Solve each problem

1. A number is increased by 11 is 56. Find the number.
2. The sum of four times a number and 5 is 41. Find the number.
3. The sum of two consecutive integers plus 7 is 148. What are the integers?
4. Sherry is 25 years younger than her dad. The sum of their ages is 59. How old is Sherry?
5. Mrs. Chin bought some $0.20 stamps and an equal number of $0.29 stamps. She paid a total of

$4.90 for all the stamps. How many of each type stamp did she buy?

1. Enrique Romero bought a refrigerator for $50 more than half its original price. He paid $375 for the refrigerator. What was the original price of the refrigerator?

Solve each absolute value equation

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| 39) |*x* + 2| = 6  | 40) |*x* - 4| -5 = 2 | 41) |3*x* - 7| - 10 = -2 |
| 42) |*x* - 7| = -13 | 43) |3*x* - 4| + 15 = 41 | 44) 2|3*x* - 7| = 10 |
| 45)  | 46)  | 47)  |

Solve each inequality

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| --- | --- |
| 48) 2*x* - 4 > 18 | 49) 7*x* + 2 16 |
| 50) 3(4*x* - 3)  15 | 51) 4 - 5x > -11 |
| 52) 2 + 3(*x* + 4)  2(*x* - 3) | 53) 4*x* + 5 < 6*x* - 1 |
| 1 154) *x* < 2 4 | *x* - 5 | 55)  |
| 56) |  |  57)   |

Write each linear function in standard form *Ax* + *By* = *C*

Remember: *A*, *B*, or *C* may not be a fraction and A should be a positive number

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| 58) *y* = -2*x* + 7 | 59) -3*x* + 2*y* = -14 | 260*) y* = *x* - 43 |
| 361) *x* = *y* + 32 | 62)  | 63) 2x + 3y = 6 |

Find the slope of the line passing through each pair of points.

|  |  |
| --- | --- |
| 64) (-4,0), (2,3) | 65) (0,3), (-2,0) |
| 66) (2,1/2 ) , (-3,1) | 67) (5,2), (5, -3) |

68) (2, -1), (-5, -1)

69) (4, -8), (-3,7)

Solve each system using the substitution method

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| 70)  | 71)  |
| 72)   | 73)   |

Solve each system using the elimination method.

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| 74)  | 75)  |
| 76)  | 77)  |

Simplify

|  |  |
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| 78) 2*x*(3*x* + 1) + 3(2*x* - 3) | 79) 3*x*(2*x* - 4) - 3(*x* + 5) |
| 80) 3*xy*(2*x*2 - 3*x* + 2*y* - *y*2) | 81) 2*x*2*y*3(2*x* - 3*xy* + *y*) |
| 82) (*x* - 3)(*x* - 4) | 83) (*x* + 2)(*x* + 6) |
| 84) (2*x* + 5)(*x* - 3) | 85) (3*x* - 2)(2*x* + 1) |

|  |  |
| --- | --- |
| 86) 3(*x* - 4)(*x* + 2) | 87) *x*(5*x* - 1)(3*x* + 2) |
| 88) (*x* + 2)2 | 89) (*x* + 1)(*x*2 - 2*x* + 5) |

Factor

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| 90) *x*2 + 5*x* + 6  | 91) *x*2 - 6*x* + 8  |
| 92) *x*2 + 3*x* - 10 | 93) *x*2 - 3*x* - 18 |
| 94) 2*x*2 - 5*x* - 3 | 95) 2*x*2 - 5*x* - 12 |
| 96) 6*x*2 - 13*x* - 5 | 97) 8*x*2 - 6*x* - 5 |

|  |  |
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| 98) *x*3 + *x*2 - 6*x* | 99) 2*x*3 + 5*x*2 + 2*x* |
| 100) *x*2 - 16 | 101) *x*2 + 6*x* + 9  |
| 102) 2*x*3 - 2*x*2 - 24*x* | 103)   |

Solve each quadratic by either factoring or using the quadratic formula 

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| 104) *x*2 - 12*x* + 27 = 0 | 105) *x*2 - 7*x* - 44 = 0 |
| 106) 16*x*2 = 49 | 107) 3*x*2 - 13*x* = -10 |

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| 108) 4*x*2 - 35*x* - 9 = 0 | 109) -2*x*2 - 5*x* + 12 = 0 |
| 110) *x*2 - 2*x* - 5 = 0 | 111) – *x*2 + 4*x* = -2 |
| 112) 2*x*2 - *x* = 2 | 113) -3*x*2 + 2*x* + 6 = 0 |