**Secondary Math 2 1.2 Homework Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_**

**The Vertical Angle Theorem**

**Problem Sets:**

|  |  |  |
| --- | --- | --- |
|  | Name an angle in the diagram described by each of the following:a) Supplementary to b) Congruent to c) Adjacent and congruent to d) Complementary to e) Name two angles that form a linear pair. |  |

1. **Solve for x:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| a) |  | b) |  | c) |  |

1. **Find the variables and angle measures**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| a) |  and are supplementary. Find x and and if  | b) |  | c) |  and are complementary Find x and and if  |

1. **Make a diagram that matches the following description:**

and are vertical angles.

 is adjacent to .

 and are a linear pair.

 and are complementary.

1. **Use the figure below to answer the following questions**

|  |  |
| --- | --- |
|  | a) If *m∠BCG* = 60, find *m∠GCA*, *m∠BCA*, and *m∠BCD* b) *m∠ACD* = 60 and *m∠DCH* = 20. Find *m∠HCA*.c) Name two angles that form a linear pair. |

1. **Using the figure below, solve for x:**

|  |  |
| --- | --- |
|  | a) b)c)  |

**Construct a proof for each problem:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Given****Prove:**  |

|  |  |
| --- | --- |
| ***Statement*** | ***Reason*** |
|  |  |
|  |  |
|  |  |
|  |  |

 |
|  | **Given****Prove:**  |

|  |  |
| --- | --- |
| ***Statement*** | ***Reason*** |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

 |