**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*** | |  |  | |  |  | |  |  | |  |  | |  |  | |  |  | |