1. **Ch 1.1 Exercise #2**
   1. Not a proposition
   2. Not a proposition
   3. Is a proposition with truth value F
   4. Not a proposition
   5. Is a proposition with truth value F
   6. Not a proposition
2. **Ch 1.1 Exercise #27**

|  |  |  |
| --- | --- | --- |
|  |  |  |
| T | F | F |
| F | T | F |

|  |  |  |
| --- | --- | --- |
|  |  |  |
| T | F | T |
| F | T | T |

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
| T | T | F | T |
| F | F | T | F |
| T | F | T | F |
| F | T | F | T |

|  |  |  |
| --- | --- | --- |
|  |  |  |
| T | T | T |
| F | F | T |
| T | F | F |
| F | T | F |



|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
| T | T | T | T | T |
| F | F | T | T | T |
| T | F | F | F | T |
| F | T | T | T | T |



|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
| T | T | T | T | T |
| F | F | T | T | T |
| T | F | F | T | T |
| F | T | T | F | F |



1. **Ch 1.2 Exercise #5**

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
| T | T | T | T |
| F | F | F | F |
| T | F | T | T |
| F | T | F | F |
| T | T | F | T |
| F | F | T | F |

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
| T | T | T | T |
| F | F | F | F |
| T | F | T | T |
| F | T | F | F |
| T | T | F | T |
| F | F | T | F |

1. **Ch 1.2 Exercise #30**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |
| T | T | T | F | T | T | T |
| F | F | F | T | F | F | T |
| T | F | T | F | T | T | T |
| F | T | F | T | T | T | T |
| T | T | F | F | F | T | T |
| F | F | T | T | F | T | T |

1. **Ch 1.3 Exercise #3**
   1. T
   2. F
   3. T
   4. F
2. **Ch 1.3 Exercise #15**
   1. T
   2. T
   3. T
   4. F
3. **Ch 1.4 Exercise #15**
4. **Ch 1.4 Exercise #24**
   1. For all values of x and y such that if x is greater than or equal to zero and y is less than zero then the sum of y subtracted from x is greater than zero.
   2. This exists some value x and y such that x and y are less than or equal to zero and the result of y subtracted from x is greater than zero.
   3. For all values of x and y such that x and y are not equal to zero if and only if the product of x and y is not equal to zero.
5. **Ch 1.5 Exercise #5**

p = “Randy works hard” q = “Randy is a dull boy” r = “Randy will not get the job”

By hypothetical syllogism

1. **Ch 1.5 Exercise #33**
2. **Ch 1.6 Exercise #1**

The sum of two odd integers is an even integer

Odd integer:

Even Integer:

1. **Ch 1.6 Exercise #18**

If n is an integer and 3n + 2 is even, then n is even

3. **Ch 1.7 Exercise #6**

This proof is constructive since we found some value for which the claim is true

1. **Ch 1.7 Exercise #16**

If r is an irrational number, there is a unique integer n such that the distance between r and n is less than ½

1. **Ch 1.7 Exercise #27**

This is an example of an exhaustive proof