Translations for Chapter 10 Exercises:

#1

1. F ⊃ (C ⊃ ~R)
2. F ⊃ C
3. F /∴ ~R

Again, you must know how to translate "provided that" to get the first premise right.

#2

1. J • A
2. A ⊃ (J ⊃ S) /∴ S

The phrase "for the following reasons" tells us that the first statement is the conclusion and the remaining sentences are premises.

#3

1. S ⊃ P
2. (P ⊃ I) • (I ⊃ E) /∴ S ⊃ E

Again #17 in the dictionary is the key guide for getting the first part of the second premise correct. The comma shows that 'and' is the major connective in the second premise.

#4

1. T ⊃ (~D ⊃ E)
2. T
3. ~E /∴ D

#5

1. (A v K) • ~(A • K)
2. A /∴ ~K

#6

1. F v R
2. R ⊃ D
3. ~D
4. F ⊃ M /∴ M

The phrase "This proves that" indicates the conclusion.

#7

1. C
2. (C • T) ⊃ ~T
3. (C • ~T) ⊃ T /∴ T ≡ ~T

#8

1. N ⊃ R
2. O ≡ R
3. (O ⊃ R) ⊃ L /∴ (N ⊃ O) • L

#9

1. (~A v ~C) ⊃ P
2. ~P /∴ A • C

#10

1. ~F • C /∴ ~(C ⊃ F)

A short, but tricky proof. Hint: see the section in Chapter 10 on working backward (p. 342).

#11

1. I ⊃ (B ≡ M)
2. B
3. M ⊃ T
4. ~T /∴ ~I

The consequent of the first premise could also be:

[(B ⊃ M) • (M ⊃ B)]

But note that by the Equivalence rule, this is logically the same as B ≡ M.

#12

1. (G ⊃ W) • (P ⊃ A)
2. (W • A) ⊃ ~E
3. E /∴ ~(P • G)

1. (G ⊃ W) • (P ⊃ A)
2. (W • A) ⊃ ~E
3. E
4. G /∴ ~A • ~P

#13

1. P v ~L
2. P ⊃ H /∴ (P • H) v ~L

#14

1. C ⊃ (D v P)
2. (L ⊃ ~T) • [~T ⊃ (D v P)]
3. (C v L) v S /∴ (~D • ~P) ⊃ S

The conclusion is difficult to translate. Here is an example where 'or' means 'and,' and the phrase "the only way" means a necessary condition. So, what the sentence is saying is "If you don't want a slow, painful death AND you don't want to be a slave to pain the rest of your life, then you should commit suicide."

#15

1. H v S
2. (H ⊃ ~W) • [S ⊃ (G v ~G)]
3. (G ⊃ ~W) • [~G ⊃ (A v B)]
4. (A ⊃ ~W) • (B ⊃ ~T) /∴ ~W v ~T

Notice that the phrase "you have two things to worry about" is not translated. For instance, the second half of the first premise reads: "if you are sick, then you worry about getting well or not getting well."