A. For each of the following forms, determine whether it is valid. If it is, give its name.

1. \( p \rightarrow q \)  
   \( \neg p \)  
   \( q \)  
   \( \therefore q \)

2. \( p \rightarrow q \)  
   \( \neg p \)  
   \( q \)  
   \( \therefore \neg q \)

3. \( p \rightarrow q \)  
   \( q \)  
   \( \therefore p \)

4. \( p \rightarrow q \)  
   \( \neg q \)  
   \( \therefore \neg p \)

5. \( p \lor q \)  
   \( \neg q \)  
   \( \neg p \)  
   \( p \)  
   \( \therefore q \)

6. \( p \lor q \)  
   \( \neg q \)  
   \( \therefore \neg p \)

7. \( p \lor q \)  
   \( \neg p \)  
   \( q \)  
   \( \therefore \neg q \)

8. \( p \lor q \)  
   \( \neg p \)  
   \( \therefore q \)

9. \( p \uparrow q \)  
   \( p \)  
   \( \neg p \)  
   \( q \)  
   \( \therefore \neg q \)

10. \( p \uparrow q \)  
   \( \neg q \)  
   \( \therefore q \)

11. \( p \uparrow q \)  
   \( \neg p \)  
   \( \therefore \neg q \)

12. \( p \uparrow q \)  
   \( p \)  
   \( \therefore \neg p \)
B. For each of the following arguments:
   1. identify the premises and conclusion,
   2. symbolize the argument
   3. determine whether the argument is valid, and
   4. (if it is) name the form.

1. Either we’re out of gasoline or the fuel gauge is broken. We’re not out of gasoline. So, the fuel gauge must be broken.

2. Either President Obama attended Columbia or he attended Harvard. He attended Harvard. So he did not attend Columbia.

3. If Iraq refused to live by the conditions of the ceasefire agreed to after the First Gulf War, then President Bush was within his rights in using military force against Iraq. And, in fact, Iraq did refuse to live by the conditions of the ceasefire agreed to after the First Gulf War. So, President Bush was within his rights in using military force against Iraq.

4. If human beings do not have freedom of the will, then giving people advice would be useless. But it is not useless. So, human beings do have freedom of the will.

5. If human beings do not have freedom of the will, then giving people advice would be useless. But human beings do have freedom of the will. So, giving people advice is not useless.

6. If studying philosophy is an essential part of a liberal education, then a course in philosophy should be among the general requirements for graduation. It is an essential part of a liberal education. So, it should be among the general requirements for graduation.

7. If Socrates had really corrupted the youth of Athens, the relatives of the corrupted youth would have been in court to testify against Socrates, but they were not there. So, he must not really have corrupted the youth of the city.
C. In each of the passages below, identify the main conclusion. Then identify the syllogistic argument the author offers in support of that conclusion:

1. From G. B. Kerferd, *The Sophistic Movement*, p. 46

   There was a tradition in later sources that Prodicus [a Sophist] died in Athens by drinking the hemlock apparently after condemnation for ‘corrupting the young’. This is … probably rightly dismissed as involving a confusion between Prodicus & Socrates—if it had been true, we would surely hear much more about it in earlier sources.

2. From William L. Shirer, *The Rise & Fall of the Third Reich* (Simon & Shuster, 1960), 217:

   Later [i.e, after he murdered the S.A. leadership in the “Night of the Long Knives”] Hitler claimed that [S.A. leader Ernst] Roehm and his conspirators had made preparations to seize Berlin and take him into custody [in June 1934]. But if this were so why did all the S.A. leaders depart from Berlin early in June …?

3. From H. H. Scullard, *From the Gracchi to Nero: A History of Rome from 133 BC to AD 68*, pp. 308-309

   On the night of 18 July 64, when the sky was bright with a full moon, a fire broke out in Rome which raged for over a week; it destroyed at least ten of the fourteen Augustan regions, three of them being totally gutted. ... In their loss and misery, the city populace turned against Nero and accused him of starting the fire, while rumor added that he had watched the burning of the city from the tower of Maecenas and had sung as an aria over it his own ‘Sack of Troy.’ Neither charge can be taken seriously: if he had wished to destroy Rome he would hardly have chosen a bright moonlit summer night when the movement of his fire-raisers would have been hard to hide.


   In his interrogation at Nuremberg [General Franz] Halder explained to Captain Harris [his American interrogator] that there were three conditions for a successful “revolutionary action” [against Hitler in September 1938, as war over Czechoslovakia was looming]:

   The first condition is a clear and resolute leadership. The second condition is the readiness of the masses of the people
to follow the idea of the revolution. The third condition is
the right choice of time. …

One can doubt that General Haider’s first condition was ever fulfilled, as he claimed. For had there been “clear and resolute leadership” why should the generals have hesitated for four days [viz., 24–28 September, when Hitler was in Berlin]? They had on tap the military force to easily sweep Hitler and his regime aside: Witzleben had a whole army corps—the IIIrd—in and around Berlin, Brockdoff-Ahlefeldt had a crack infantry division in nearby Potsdam, Hoefner had a panzer division to the south, and the two ranking police officers in the capital, Count von Helldorf and Count von der Schulenburg, had a large force of well-armed police to help out. All of these officers, according to the plotters themselves, were but waiting for the word from Haider to spring into action with overwhelming armed force. And the population of Berlin, scared to death that Hitler was about to bring on a war, would have—so far as this writer could, at first hand, judge them—spontaneously backed the coup.
D. Sometimes, an author does not explicitly state the conclusion of an argument. What conclusion is implicit in the passages given below? What syllogistic form is being used?

1. From Alfred Guillaume, *Islam*

   Had the early Muslims thought that *hadith* [traditions about what Muhammad said and did] was as important as the Quran they would have taken steps to record it; but in fact they did not do so.

2. From Psalm 66

   If there had been evil in my heart the Lord would not have listened. But truly God has listened.

3. From Richard Leakey, *The Origin of Humankind*, p. 89

   If the multiregional-evolution hypothesis is correct, then we would expect to find early examples of modern humans appearing more or less simultaneously throughout the Old World. That is not what we see.