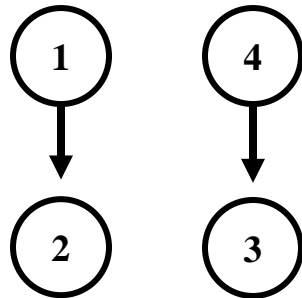


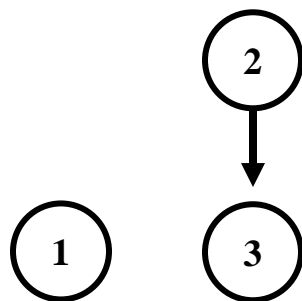
### 1.6.1. Argument Mapping Problems

A. For each of the following *partial argument maps*, state which sentences are currently **useless**; then use the No Useless Sentences Principle to **finish the map**.

1.



2.



**B.** For each of the following argument ‘skeletons,’ construct an **argument map**.

1. (1), since (2). And (3) means that (4). Furthermore, (5). So (6).
2. (1). And the reasons are clear: because (2), (3). And (4), since (5).
3. (1)? Well, in light of (2), it’s clear that (3). But (4) means that (5). And (3) and (5) together show that (1).

**C.** Construct an **argument map** for each of the following chain arguments.

1. (1) The heist bears all the marks of the Wizdom Pimpz. So, since (2) Deacon and Lemniscate are the only members not locked up, (3) it had to be one of them who committed the crime. Now (4) Deacon doesn’t have the safe-cracking skills to open a Kitnerboy Redoubt. Moreover, since (5) several people report seeing him at the Bel-Aire lounge on the night of the crime, (6) Deacon has a solid alibi. All of which means (7) Lemniscate must have committed the crime.
2. (1) What caused Odilon Redon’s first popularity in France? Well, (2) Redon wasn’t politically connected, so (3) that certainly couldn’t have helped his reputation. Moreover we know that (4) there was no early talk about his work in the art community, since (5) Redon remained unknown even after publication of his first book of lithographs in 1879. But (6) shortly before Redon’s work became popular it was discussed extensively in an 1884 cult novel by the decadent writer Huysmans. Clearly (7) it had to have been mention by a well-known figure that launched Redon to fame in France.

3. (1) Will we manage a foursome for mahjongg this weekend? (2) Suki's certainly ready to play. But since (3) Kitty and Dr. Slim are in Reno for the gun show, (4) they'd have to drive down for Kitty to play. Unfortunately (5) the Red Shark threw a rod, so (6) they won't be driving anywhere soon; which means (7) there's no way Kitty could join us. Now (8) Neko could play as long as she's willing to forget the fight we had last time about using jokers in a pair. So (9) whether we have a foursome depends on whether Neko's willing to play with us.

**D. Construct an argument map** for each of the following chain arguments (making sure to give **different numbers** to the different parts of a **combo sentence**).

1. Can students skip Logic class without harming their chances of leading successful, fulfilling lives? Consider the facts: over the last five years, 90% of the students who skipped more than four classes in Logic ended up unemployed, 80% wound up strung out on drugs, and 20% died. And we know other factors weren't to blame, since each of those students did fine in their other courses. Clearly, skipping Logic is a nearly fool-proof way of ruining your entire life.

2. "That every body continues in its state either of rest or of moving uniformly in a right line, unless so far as it is compelled to change that state by external force, is a law of Nature universally received by all philosophers. But it follows from this that bodies which move in curved lines, and are... continually bent from the right lines that are tangents to their orbits, are retained in their curvilinear paths by some force acting. Since, then, the planets move in curvilinear orbits, there must be some force operating, by the incessant actions of which they are continually made to deflect from the tangents."

– Roger Cotes, Preface to the Second Edition of Isaac Newton's **Principia Mathematica** (1713), trans. Motte, p. xxii.

3. The killer wasn't drinking Gibsons, as shown by the unopened bottle of cocktail onions. So since all the members of the Chess Club drink Gibsons, it's safe to conclude that the murderer wasn't a member of that club.

4. “If I had the power of preserving myself, how much more would I have the power of giving myself the perfections which I lack (Axioms VIII and IX); for these perfections are merely attributes of a substance, whereas I am a substance. But I do not have the power of giving myself these perfections; [since] if I did, I should already have them (Axiom VIII). Therefore I do not have the power of preserving myself.”

– Rene Descartes, **Second Set of Replies** (1641) [AT 168], in (Cottingham, Stoothoff, and Murdoch eds.) **The Philosophical Writings of Descartes, Volume II**, p. 118

5. Letitia and Lucretia are having another epic fight over movies and music, which means we can’t invite them both to the séance on Sunday. So, given that Barbie won’t want to come without Letitia, we’ll have to invite Lucretia some other time.

6. “New truths... are the resultants of new experiences and of old truths combined and mutually modifying one another. And since this is the case in changes of opinion to-day, there is no reason to assume that it has not been so at all times. It follows that very ancient modes of thought may have survived through all the later changes in men’s opinions.”

– William James, **Pragmatism** (1907), Lecture V

7. Being a molecular sentence, “ $((P \wedge Q) \vee \sim R)$ ” must have been the output of one of the three molecular rules. And the left-most symbol here being a parenthesis, it could only be the output of Rule 3 or Rule 4. But the vel is bookended by fewer parentheses than the wedge, so the vel must be the main connective. That means “ $((P \wedge Q) \vee \sim R)$ ” is the output of Rule 4.<sup>1</sup>

8. Given how shady Dora finds Dr. Slim, she won’t assist at the trade show unless Dick comes along. But Dick’s leaving town for a two week grappa-tasting tour of the Badlands, which means he can’t be there. And since Trixie will only participate if she doesn’t have to work alone with Dr. Slim, she’s not going to help with the trade show unless Jezebel does too.

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<sup>1</sup> See Section 2.8.

9. Is Jake sticking with his New Year's resolution to exercise every day? Well, from the fact that his apartment is littered with beer cans and full ashtrays we can see that he's still drinking and smoking as much as ever. But someone who drinks and smokes that much wouldn't have the energy, or the willpower, to stick to an exercise regimen.

*(What's unusual about this argument?)*

10. "Adding B to **S4** gives **S5**; [so] since **S4** is weaker than **S5**, it follows that B is not in **S4**, and hence that **S4** does not contain the system **B**. Nor does **B** contain **S4** since there are reflexive and symmetric frames that are not transitive. So **B** and **S4** are independent systems...."

– Max Cresswell, "Modal Logic"; in Lou Goble, ed., **The Blackwell Guide to Philosophical Logic**, p. 142

11. "An intuition is such a representation as would immediately depend upon the presence of the object. Hence it seems impossible to intuit anything *a priori* originally, because intuition would in that event have to take place without either a former or present object to refer to, and hence could not be intuition."

– Immanuel Kant, **Prolegomena** (1783), pp. 281-282

12. "His graphological proof... was no proof at all for, the manuscripts being copies..., Rimbaud could have written the poems at any previous date."

– Louise Varese, translator's introduction to Arthur Rimbaud, **Illuminations**, p. xv

13. "...at equal distances, the absolute attractive force of body A is to the absolute attractive force of body B as the accelerative attraction of all bodies toward A is to the accelerative attraction of all the bodies toward B at equal distances; and the accelerative of body B toward A is also in the same proportion to the accelerative attraction of body A toward B. But the accelerative attraction of body B toward A is to the accelerative attraction of body A toward B as the mass of body A is to the mass of body B, because the motive forces – which... are as the accelerative forces and the attracted body jointly – are in this case (by the third law of motion) equal to each other. Therefore the absolute attractive force of body A is to the absolute attractive force of body B as the mass of body A is to the mass of body B."

– Isaac Newton, **Principia Mathematica** (1687) Book I Proposition 69 (trans. Cohen and Whitman), p. 587

*(Feel free to break the "and" premise into separate sentences.)*

14. Suki and Neko both want fish, but there's only enough fish for one; so if Jack doesn't find some more, Suki and Neko will have a fight. Now, if they have a fight you can bet there'll be a lot of screaming and shouting, and the neighbors will end up calling the cops. And if the cops come, Suki will get in trouble over that "three strikes" law. So if Jack doesn't find some more fish, Suki's going to jail.

(Remember: "if... then" sentences are **not** combo sentences.)

15. "Because the point A is the center of the circle BCD, AC is equal to AB. And because the point B is the center of the circle ACE, CB is equal to AB. But since AC is equal to AB, and AB is equal to CB, it follows that AC, AB, and CB are all equal."

– Euclid, **Elements**, Book I, Proposition 1

16. "...since miracles were wrought according to the understanding of the masses, who are wholly ignorant of the workings of nature, it is certain that the ancients took for a miracle whatever they could not explain by the method adopted by the unlearned in such cases, namely, an appeal to the memory, a recalling of something similar, which is ordinarily regarded without wonder; for most people think they sufficiently understand a thing when they have ceased to wonder at it. The ancients, then, and indeed most men up to the present day, had no other criterion for a miracle; hence we cannot doubt that many things are narrated in Scripture as miracles of which the causes could easily be explained by reference to ascertained workings of nature."

– Benedict de Spinoza, **A Theologico-Political Treatise** (1677), Chapter VI

17. "We are conscious *a priori* of the complete identity of the self... as being a necessary condition of the possibility of all representations. For in me they can represent something only in so far as they belong with all others to one consciousness, and therefore must be at least capable of being so connected. ...This synthetic unity presupposes or includes a synthesis, and if it [the synthetic unity] is to be *a priori* necessary, the synthesis must also be *a priori*. ...But only the productive synthesis of the imagination can take place *a priori*.... Thus the principle of the necessary unity of pure (productive) imagination, prior to apperception, is the ground of the possibility of all knowledge...."

– Immanuel Kant, **Critique of Pure Reason** (1781/1787), A116-118