

Which of the following arguments are valid? Where an argument is valid, provide a proof. Some of the examples are enthymemes that need repair.

1. *No philosopher is illogical. Jones keeps making argumentative blunders. No logical person keeps making argumentative blunders. All existentialists are philosophers. So, Jones is not an existentialist.*

1	No philosopher is illogical	Premiss
2	Jones keeps making argumentative blunders	Premiss
3	No logical person keeps making argumentative blunders	Premiss
4	All existentialists are philosophers	Premiss
5	Jones is illogical	From 2, 3
6	Jones is not a philosopher	From 1, 5
7	Jones is not an existentialist	From 4, 6

Alternatively ...

5	Jones is an existentialist	Supposition
6	Jones is a philosopher	From 4, 5
7	Jones is logical	From 1, 6
8	Jones does not keep making argumentative blunders	From 3, 7
9	Contradiction!	From 2, 8
10	Jones is not an existentialist	Since the supposition 5 leads to contradiction.

2. *Jane has a first cousin. Jane's father had no siblings. So, if Jane's mother had no sisters, she had a brother.*

1	Jane has a first cousin	Premiss
2	Jane's father had no siblings	Premiss
3	Either Jane's mother has at least one sibling with a child or Jane's father has at least one sibling with a child	From 1, definition of 'first cousin'
4	Either Jane's mother has at least one sibling or Jane's father has at least one sibling	From 3
5	Jane's mother has at least one sibling	From 2, 4
6	If Jane's mother had no sisters, she had a brother.	From 5

3. *Every event is causally determined. No action should be punished if the agent isn't responsible for it. Agents are only responsible for actions they can avoid doing. Hence no action should be punished.*

Suppose we add the premiss 'If every is causally determined, then no agent can avoid acting as they do'. Then we'd have the following argument:

1	Every event is causally determined.	Premiss
2	No action should be punished if the agent isn't responsible for it.	Premiss
3	Agents are only responsible for actions they can avoid doing.	Premiss
4	If every is causally determined, then no agent can avoid acting as they do.	Suppressed premiss
5	No agent can avoid acting as they do.	From 1, 4
6	Agents are never responsible for what they do.	From 3, 5
7	No action should be punished.	From 2, 6

So the argument, with the extra premiss is valid – so it can be treated as an enthymeme with a suppressed premiss. (Incidentally, many philosophers think that (5), though it looks plausible, is in fact *false*.)

4. *Something is an elementary particle only if it has no parts. Nothing which has no parts can disintegrate. An object that cannot be destroyed must continue to exist. So an elementary particle cannot cease to exist.*

As it stands, this is invalid. Add the premiss 'If an object cannot disintegrate, then it cannot be destroyed' then we get a valid argument.

5. *No experienced person is incompetent. Jenkins is always blundering. No competent person is always blundering. So, Jenkins is inexperienced.*

1	No experienced person is incompetent.	Premiss
2	Jenkins is always blundering.	Premiss
3	No competent person is always blundering.	Premiss
4	Jenkins is incompetent.	From 2, 3
5	Jenkins is inexperienced.	From 1, 4

Alternatively ...

4	Jenkins is experienced.	Supposition
5	Jenkins is competent.	From 1, 4
6	Jones is not always blundering.	From 3, 5
7	Contradiction!	From 2, 6
10	Jones is inexperienced.	Since the supposition 4 leads to contradiction

So a valid argument again, as is the next:

6. *Only logicians are good philosophers. No existentialists are logicians. Some existentialists are French philosophers. So, some French philosophers are not good philosophers.*

1	Only logicians are good philosophers.	Premiss
2	No existentialists are logicians.	Premiss
3	Some existentialists are French philosophers.	Premiss
4	Some French philosophers are existentialists.	From 3
5	Some French philosophers are not logicians.	From 2, 4
6	Some French philosophers are not good philosophers.	From 1, 5

7. *Either the butler or the cook committed the murder. The victim died from poison if the cook did the murder. The butler did the murder only if the victim was stabbed. The victim didn't die from poison. So, the victim was stabbed.*

1	Either the butler or the cook committed the murder.	Premiss
2	The victim died from poison if the cook did the murder.	Premiss
3	The butler did the murder only if the victim was stabbed.	Premiss
4	The victim didn't die from poison.	Premiss
5	The cook did the murder.	Supposition
6	The victim died from poison.	From 2, 5
7	Contradiction	From 4, 6
8	The cook didn't do the murder.	Since 5 leads to contradiction.
9	The butler did the murder.	From 1, 8
10	The victim was stabbed.	From 3, 9

8. *Promise-breakers are untrustworthy. Beer-drinkers are very communicative. A man who keeps his promises is honest. No one who doesn't drink beer runs a bar. One can always trust a very communicative person. So, no one who keeps a bar is dishonest.*

This stupid example is a variant, if I recall, on one of Lewis Carroll's. Blame him!

1	Promise-breakers are untrustworthy	Premiss
2	Beer-drinkers are very communicative	Premiss
3	A man who keeps his promises is honest	Premiss
4	No one who doesn't drink beer runs a bar.	Premiss
5	One can always trust a very communicative person	Premiss
6	Beer-drinkers are trustworthy	From 2, 5
7	Beer drinkers aren't promise-breakers	From 1, 6
8	Beer drinkers are honest	From 3, 7
9	Anyone who keeps a bar is a beer drinker	From 4
10	Anyone who keeps a bar is honest	From 8, 9
11	No one who keeps a bar is dishonest	From 10

(Of course, not every step here needs to be laid out in all its boring detail – you might, for example, think that the leap from (4) and (8) to (11) is obvious and doesn't need to be broken down into smaller steps.)

9. *When I do an example without grumbling, it is one that I can understand. No easy logic example ever makes my head ache. This logic example is not arranged in regular order, like the examples I am used to. I can't understand these examples that are not arranged in regular order, like the examples I am used to. I never grumble at an example, unless it gives me a headache. So, this logic example is difficult.*

Blame Lewis Carroll again—OK, in the next edition of this book, I'll try to concoct a better example or two!!

1	When I do an example without grumbling, it is one that I can understand.	Premiss
2	No easy logic example ever makes my head ache.	Premiss
3	This logic example is not arranged in regular order, like the examples I am used to.	Premiss
4	I can't understand these examples that are not arranged in regular order, like the examples I am used to.	Premiss
5	I never grumble at an example, unless it gives me a headache.	
6	I can't understand this logic example	From 3, 4

Now assume

7	I <i>am</i> doing this logic example ...	
8	I'm grumbling at this logic example.	From 1, 7
9	This logic example is giving me a headache	From 5, 8
10	This is not an easy logic example	From 2, 9

But even adding our extra premiss, we haven't quite got where we want. For '*X is not easy*' doesn't entail '*X is difficult*': something could be in-between, neither easy nor difficult but so-so.