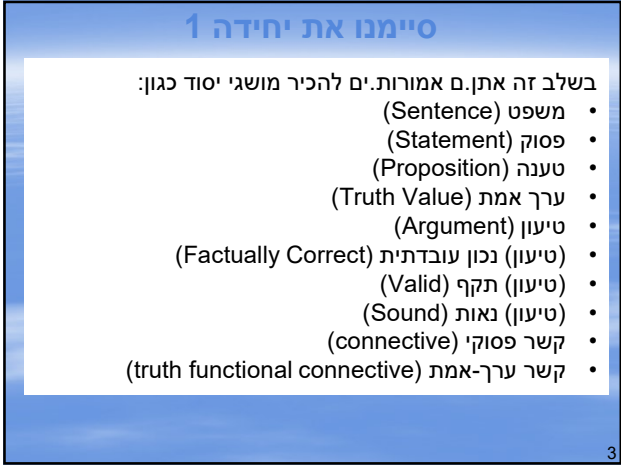




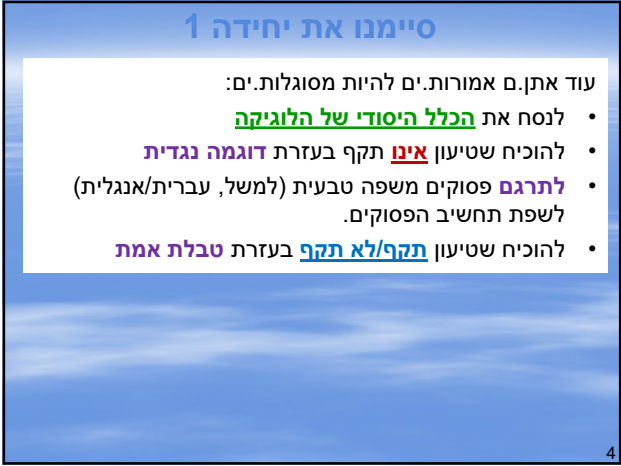
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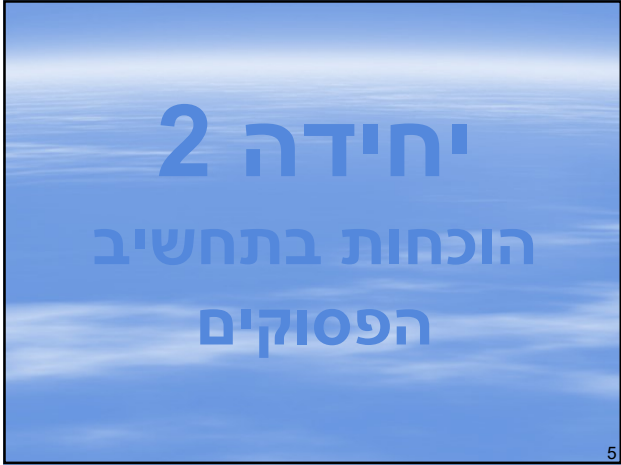
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3



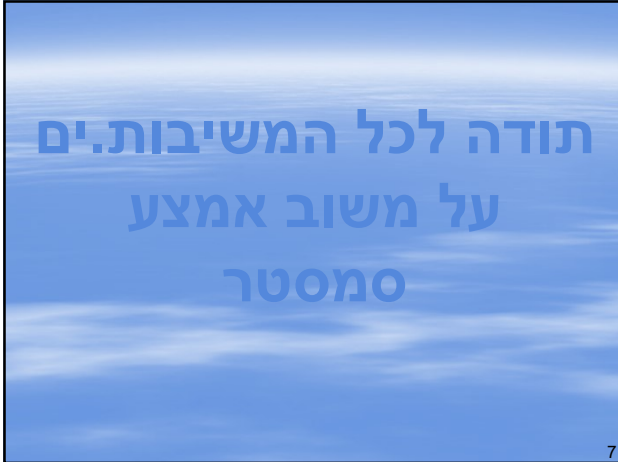
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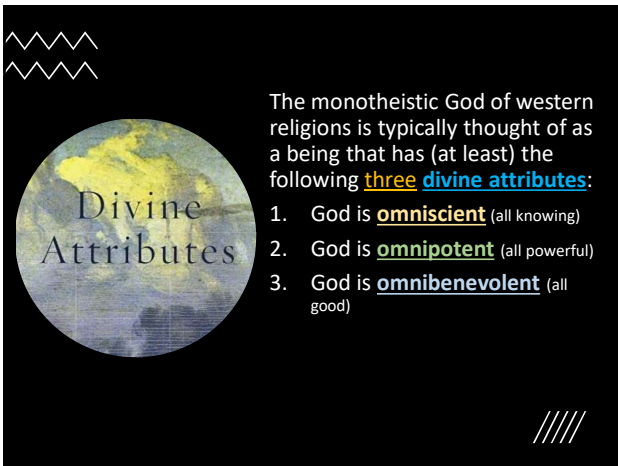
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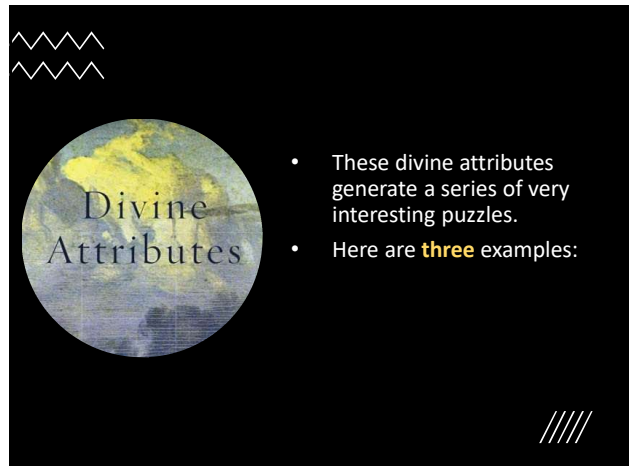
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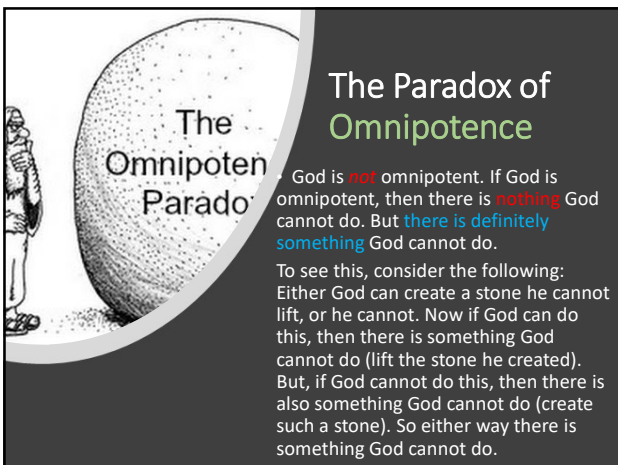
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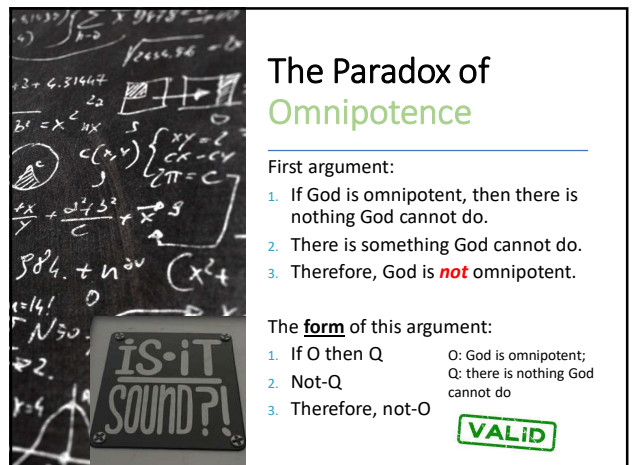
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An argument for premise (2)

1. Either God **can** create a stone he cannot lift, or God **cannot** create a stone he cannot lift
2. If God **can** create a stone he cannot lift, then there is something God **cannot** do.
3. If God **cannot** create a stone he cannot lift, then there is something God **cannot** do.
4. Therefore, there is something God **cannot** do.

1. Either P or $\sim P$
 - o P: God **can** create a stone he can't lift
 - o $\sim P$: God **cannot** create a stone he can't lift
 - o Q: There is something God cannot do
2. If P, then Q
3. If $\sim P$, then Q
4. Therefore, Q

VALID



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Omnipotence vs. Omnibenevolence

1. If God is Omnibenevolent, then God cannot do evil.
2. If God cannot do Evil, then there are things God cannot do.
3. If there are things God cannot do, then God is not omnipotent.
4. Therefore, if God is Omnibenevolent, then God is not Omnipotent



VALID

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Omniscience and Freedom

1. If God is Omniscient, then God knows now what we will do in the future.
2. If God knows now what we will do in the future, then we can't do otherwise.
3. If we can't do otherwise, then we are not free.
4. Therefore, if God is Omniscient, then we are not free.



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WHERE
WERE
WE ?

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יחידה 2

הוכחות בתחשיב
הפסוקים

אתנ"ם אמורות/ים להיות מסוגלות/ים:
• להוכיח שטיעון תקיף/לא תקיף בעזרת טבלת אמת

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תרגיל

הוכיחו שהטיעון הבא הוא טיעון תקיף:

1. If A, then B
2. If B, then C
3. If C, then D
4. If D, then E
5. If E, then F
6. If F, then G
7. If G, then H
8. Therefore, If A, then H

8 פסוקים אטומיים: A, B, C, D, E, F, G, H
256 מקרים!

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הרעיון הבסיסי

טבלאות אמת הן כלי לא מאד יעיל
אנחנו מפרטים את **כל** המקרים האפשריים
בעוד ש**רק** המקרים בהם **כל** ההנחות אמיתיות מעניינים אותנו.

אם יש 2, 3, או אפילו 4 פסוקים אטומיים, זה לא כל כך נורא
• (4, 8, ו-16 מקרים)
אבל אם יש 5 פסוקים אטומיים (או יותר) זה כבר נהיה יותר
מסורבל... (32 מקרים, 64, 128, 256....)

יותר יעיל לבחון **רק את המקרה שמעניין אותנו – המקרה שבו כל ההנחות אמיתיות.**

• חישובו על מה שעשינו כשדיברנו על **דוגמאות נגדיות.**

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הרעיון הבסיסי

We start with a few argument forms, which we **know** are valid, and we use these to **demonstrate** that other argument forms are valid.

We **demonstrate (show)** that a given argument form is valid by **deriving (deducing)** its conclusion from its premises using a few **fundamental modes of reasoning.**

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Example 1 – Modus Ponens (MP)

| | |
|-------------------|-------------|
| $A \rightarrow C$ | if A then C |
| A | A |
| ----- | ----- |
| C | C |

a *derivative* argument form

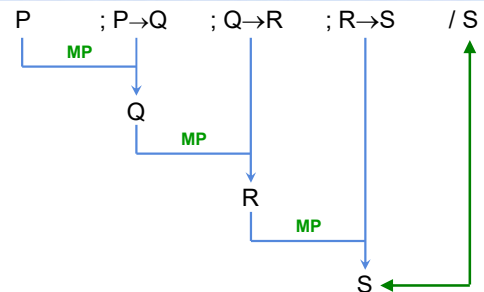
we can employ *modus ponens* (MP) to *derive* the conclusion from the premises.

| |
|-------------------|
| P |
| $P \rightarrow Q$ |
| $Q \rightarrow R$ |
| $R \rightarrow S$ |
| ----- |
| S |

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Example 1 (continued)



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Example 2 – Modus Tollens (MT)

| | |
|-------------------|-------------|
| $A \rightarrow C$ | if A then C |
| $\sim C$ | not C |
| ----- | ----- |
| $\sim A$ | not A |

a *derivative* argument form

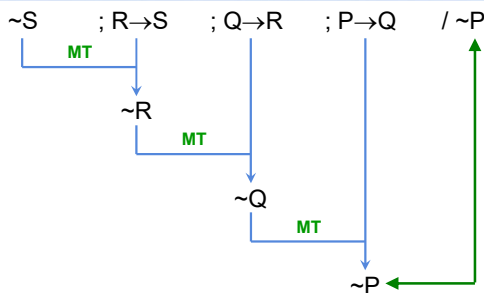
we can employ *modus tollens* (MT) to *derive* the conclusion from the premises.

| |
|-------------------|
| $\sim S$ |
| $R \rightarrow S$ |
| $Q \rightarrow R$ |
| $P \rightarrow Q$ |
| ----- |
| $\sim P$ |

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Example 2 (continued)



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Example 3 – using both MP and MT

| | |
|-------------------|-------------------|
| $A \rightarrow C$ | $A \rightarrow C$ |
| A | $\sim C$ |
| <hr/> | |
| C | $\sim A$ |

derivative argument form

we can employ a combination of MP and MT to *derive* the conclusion from the premises.

| | |
|-----------------------------|--|
| $\sim S$ | |
| $R \rightarrow S$ | |
| $\sim R \rightarrow \sim T$ | |
| $P \rightarrow T$ | |
| $\sim P \rightarrow \sim Q$ | |
| <hr/> | |
| $\sim Q$ | |

Example 3 (continued)

