Question 1:
Researchers observed that female leopard seals are about 50% larger than males and have more scars. Which of the following can be reasonably inferred from these observations?
A. Female leopard seals are fewer in number than males.
B. Female leopard seals likely compete frequently for food. (Correct answer)
C. Male leopard seals do not hunt large prey.
D. Male leopard seals are better adapted to climate change.

Explanation for the correct option:
Female leopard seals have larger body sizes and therefore require more food, especially when raising pups, causing frequent competition and resulting in more injuries and scars.

Explanation for other options:
A: Body size and injuries do not indicate population numbers.
C: The data provided do not describe the hunting behavior of male leopard seals, so this inference cannot be made.
D: Adaptability to climate change cannot be inferred solely from body size and injury data.

Question 2:
Global warming is causing ice in Antarctica to melt, reducing the ice surfaces leopard seals use to rest and give birth. According to the study, which behavioral trait is most likely to help leopard seals survive future environmental changes?
A. Long-distance movement and varied diving behaviors (Correct answer)
B. Increased differences in body size between males and females
C. Larger body size and heavier weight
D. Reliance on a single and consistent food source

Explanation for the correct option:
Leopard seals' ability to move long distances and dive at various depths allows them to find food and resting places in different environments, increasing their adaptability to changing conditions.

Explanation for other options:
B: Increased body size differences between sexes do not directly enhance adaptation to shrinking ice.
C: Larger body size could actually make it harder to find sufficient food, thus is not necessarily advantageous.
D: Relying on a single food source is risky in unstable environmental conditions.

Question 3:
The research team observed significant variations in leopard seals' diving depths, with some seals diving up to 1.25 kilometers deep for 25 minutes. Which hypothesis best explains why leopard seals developed this ability?
A. To rest in deep waters, avoiding predators
B. To hunt a greater variety of prey at different depths (Correct answer)
C. Deep waters have higher temperatures, helping maintain body heat
D. To escape human tracking and capture

Explanation for the correct option:
Diving capabilities allow leopard seals to hunt prey at different depths, increasing their food sources and survival opportunities.

Explanation for other options:
A: Leopard seals are apex predators with few natural enemies, so avoiding predators at depth is unnecessary.
C: Deep waters are actually colder, making this explanation incorrect.
D: Evolution of deep diving is unlikely due to human interactions, as leopard seals have not been significantly threatened by humans historically.

Question 4:
Research indicates that leopard seals travel extensively, averaging about 556 kilometers and sometimes exceeding 1600 kilometers. Based on this data, what characteristic can we infer leopard seals possess?
A. Lack of adaptability to environmental changes
B. Ability to search for and adapt to various environments (Correct answer)
C. Preference for staying within a limited area
D. Activity restricted only to areas with abundant food

Explanation for the correct option:
Long-distance travel demonstrates that leopard seals can adapt to various environments and actively seek new food and resting areas.

Explanation for other options:
A: Extensive travel shows good adaptability, not a lack thereof.
C: Data show leopard seals travel far, not remaining in a fixed area.
D: Long-distance movements suggest they proactively search for food rather than remaining only in food-rich areas.