SOLO
The Sorites of Lewis Carroll

Lewis Carroll, author of *Alice in Wonderland,* was a great lover of logic and nonsense. He wrote several books about symbolic logic in which were featured what are known as *Sorites* (se-RYE-teez) - simple logical puzzles in which an overall conclusion (which may or may not have any sensible meaning) was to be derived. For example, the set of statements …

(1) Babies are illogical;
(2) Nobody is despised who can manage a crocodile;
(3) Illogical persons are despised.

… would be "solved" by the following explanation: *Babies are illogical and all illogical persons are despised, therefore babies are despised. However, no person who can manage a crocodile is despised, therefore babies cannot manage crocodiles.* The conclusion, by the chain of logic, is that babies cannot manage crocodiles. See if you can solve the sorites below. Note that some of them are quite difficult!

Set 1
(1) No potatoes of mine, that are new, have been boiled;
(2) All my potatoes in this dish are fit to eat;
(3) No unboiled potatoes of mine are fit to eat.

Set 2
(1) No goods in this shop, that have been bought and paid for, are still on sale;
(2) None of the goods may be carried away, unless labeled "sold";
(3) None of the goods are labeled "sold" unless they have been bought and paid for.

Set 3
(1) No discussions in our Debating-Club are likely to rouse the British Lion, so long as they are checked when they become too noisy;
(2) Discussions, unwisely conducted, endanger the peacefulness of our Debating-Club;
(3) Discussions, that go on while Tomkins is in the Chair, are likely to rouse the British Lion;
(4) Discussions in our Debating-Club, when wisely conducted, are always checked when they become too noisy.

Set 3
(1) No kitten, that loves fish, is unteachable.
(2) No kitten without a tail will play with a gorilla;
(3) Kittens with whiskers always love fish;
(4) No teachable kitten has green eyes;
(5) No kittens have tails unless they have whiskers.

Set 4
(1) Everything, not absolutely ugly, may be kept in a drawing-room;
(2) Nothing, that is encrusted with salt, is ever quite dry;
(3) Nothing should be kept in a drawing-room, unless it is free from damp;
(4) Bathing-machines are always kept near the sea;
(5) Nothing, that is made of mother-of-pearl, can be absolutely ugly;
(6) Whatever is kept near the sea gets encrusted with salt.

Optional Set 5   **+1 Token**

(1) The only animals in this house are cats;
(2) Every animal is suitable for a pet, that loves to gaze at the moon;
(3) When I detest an animal, I avoid it;
(4) No animals are carnivorous, unless they prowl at night;
(5) No cat fails to kill mice;
(6) No animals ever take to me, except what are in this house;
(7) Kangaroos are not suitable for pets;
(8) None but carnivora kill mice;
(9) I detest animals that do not take to me;
(10) Animals, that prowl at night, always love to gaze at the moon.