



Truth Finder - set samples - paper 1

For each question, choose the one option that must be true. Each entity belongs to exactly one primary category.

1. A dealership showroom has 8 cars on display.
- At least 3 are electric and at least 4 are solar-powered.
 - All diesel and solar-powered cars have leather interiors.
 - Petrol cars have alloy wheels.
- A) All of the cars are electric.
B) All cars that are not solar-powered are electric.
C) The electric cars have alloy wheels.
D) At least 3 of the cars have alloy wheels.
E) At least 4 of the cars are not electric.

ans _____

2. A botanical garden greenhouse has 7 rare orchids.
- At least 3 are pink and at least 2 are purple.
 - All white and purple orchids have a sweet fragrance.
 - Yellow orchids have aerial roots.
- A) All of the orchids are white.
B) At least 5 of the orchids are purple.
C) At most 2 of the orchids are white.
D) None of the purple orchids have a sweet fragrance.
E) At least one of the orchids is white.

ans _____

3. A dog breeder has 5 puppies in a litter.
- At least 2 are brown and at least 2 are golden.
 - All black and golden puppies have floppy ears.
 - White puppies have a curly tail.
- A) At least 4 of the puppies are golden.
B) All of the puppies with floppy ears are black.
C) At least 3 of the puppies have floppy ears.
D) Some of the puppies with floppy ears are golden.
E) All of the puppies with floppy ears are golden.

ans _____



Truth Finder - set samples - Answers

1. There are 8 cars.

Known facts:

- At least 3 are electric
- At least 4 are solar-powered
- 1 car is unspecified (could be electric, hybrid, diesel, petrol, or solar-powered).
- All diesel and solar-powered cars have leather interiors.
- Petrol cars have alloy wheels.

Therefore, because at least 4 cars are solar-powered (which is distinct from electric), at least 4 cars are definitely not electric.

Check the options:

A: False — at least 4 of the cars are solar-powered.

B: Not certain — unallocated cars could be diesel or petrol.

C: Not certain — no rule says that electric cars have alloy wheels.

D: Not certain — no stated group of 3 cars is known to have alloy wheels.

E: Must be true — at least 4 cars are solar-powered, and solar-powered cars are not electric.

Answer: **E**

2. There are 7 orchids.

Known facts:

- At least 3 are pink
- At least 2 are purple
- 2 orchids are unspecified (could be purple, white, yellow, striped, or pink).
- All white and purple orchids have a sweet fragrance.
- Yellow orchids have aerial roots.

Therefore, since 7 items total minus at least 5 known (pink and purple) leaves at most 2 unallocated, at most 2 of the orchids are white.

Check the options:

A: False — at least 3 of the orchids are pink and at least 2 are purple.

B: False — at least 3 of the orchids are pink, so at most 4 can be purple.

C: Must be true — at least 5 orchids are pink or purple, leaving at most 2 that could be white.

D: False — all purple orchids have a sweet fragrance.

E: Not certain — none of the specified orchids are white, and one of the remaining orchids might not be white either.

Answer: **C**

3. There are 5 puppies.

Known facts:

- At least 2 are brown
- At least 2 are golden
- 1 puppy is unspecified (could be golden, black, spotted, brown, or white).
- All black and golden puppies have floppy ears.
- White puppies have a curly tail.

Therefore, since all golden puppies have floppy ears and there are at least 2 golden puppies, some of the puppies with floppy ears are golden.

Check the options:

A: False — at least 2 of the puppies are brown, so at most 3 can be golden.

B: False — at least 2 of the puppies are golden and also have floppy ears.

C: Not certain — only 2 golden puppies are guaranteed to have floppy ears.

D: Must be true — all 2 golden puppies have floppy ears, so there are puppies with floppy ears that are golden.

E: Not certain — any black puppies would also have floppy ears.

Answer: **D**