

Nuclear Weapons In Exercises 17 and 18, use the information below. (See Example 5.)

A country's stockpile of nuclear weapons consists of operational warheads and reserve warheads.

U.S. stockpile: 5113 warheads

- Operational warheads:
 - 1968 strategic
 - 500 nonstrategic

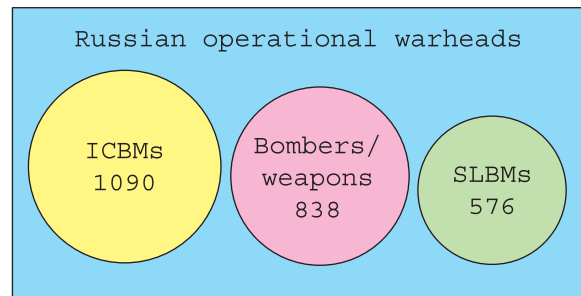


17. Draw a set diagram that shows the information.
18. How many reserve warheads are in the U.S. stockpile?

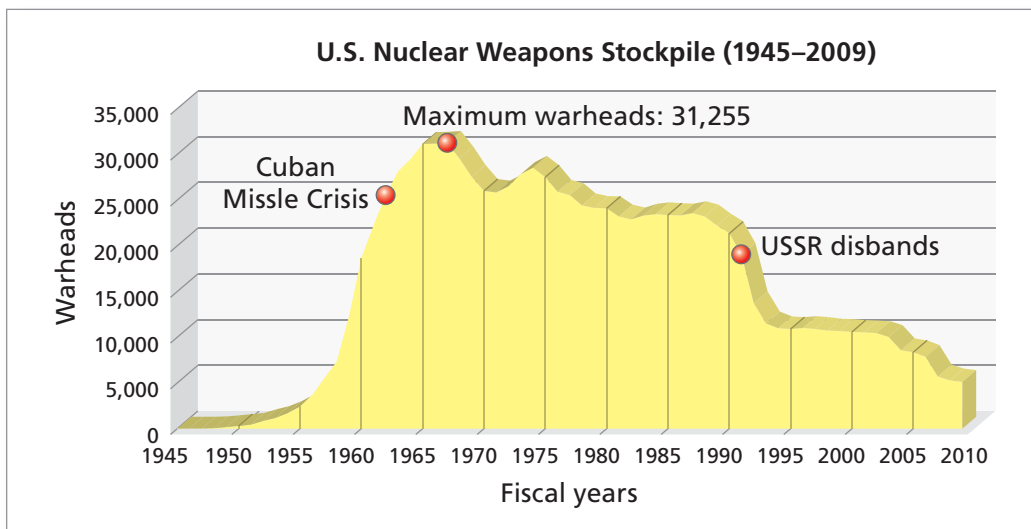
Nuclear Weapons In Exercises 19 and 20, use the information and the set diagram. (See Example 6.)

Russia's 4600 operational warheads consist of nonstrategic warheads and the following strategic warheads.

- Intercontinental ballistic missiles (ICBMs)
- Submarine-launched ballistic missiles (SLBMs)
- Bombers/weapons



19. How many Russian operational warheads are nonstrategic?
20. Can you use these data to determine whether the United States or Russia has a greater stockpile of nuclear weapons? Explain your reasoning.
21. **New START** In 2010, the United States ratified the New START (Strategic Arms Reduction Treaty) with Russia. This agreement reduces the number of strategic nuclear weapons in each country.
 - a. How do you think New START will affect the set diagrams in Exercises 17–20?
 - b. Discuss trends in the graph. How do you think New START will affect the graph?



22. **Doomsday Clock** The Bulletin of the Atomic Scientists assesses how close humanity is to doomsday. Midnight represents doomsday. Do you think the minute hand is moving away from midnight, toward midnight, or neither? Explain your reasoning.