

Exercise 4

2.

16, 24, 20, 22

4.

(c)

Generics were introduced to the Java language to provide tighter type checks at compile time and to support generic programming. To implement generics, the Java compiler applies type erasure to:

- Replace all type parameters in generic types with their bounds or `Object` if the type parameters are unbounded. The produced bytecode, therefore, contains only ordinary classes, interfaces, and methods.
- Insert type casts if necessary to preserve type safety.
- Generate bridge methods to preserve polymorphism in extended generic types.

Type erasure ensures that no new classes are created for parameterized types; consequently, generics incur no runtime overhead.

(d)

See `Stack-Erasure.java`