Design	Advantages	Disadvantages
Design 2	• Code is mildly more complicated than the original design as operations to calculate cartesian coordinates are involved. An indicator is not needed to specify which type of coordinates is used as done in the original design. • Instantiating is fast since only one set of coordinates needs to be initialized. • Memory used is low since only polar coordinates are stored	• Efficiency of computations while generally fast, will be slower when calculating the cartesian coordinates.
Design 3	• Code is mildly complex as operations are involved to calculate the polar coordinates. An indicator is not needed to specify which type of coordinates is used as done in the original design. • Instantiating is fast since only one set of coordinates needs to be initialized. • Memory usage is low as only cartesian coordinates are stored.	• Efficiency of computation will be slowed when calculating the polar coordinates.
Design 5	• Code involves abstract classes and subclasses and their implementation which makes it complex. • Creating an instance would be fast as the concrete subclass used	• Efficiency of computation will depend on the subclass used and the operation in question so it can range from fast to moderately less fast.

	has a fast instantiation time. • Abstract implementation allows for modularity and code reuse. • Memory usage depends on the subclass used but both have low usage as mentioned above, so this design would have low memory usage.	