Your company assembles five different models of a motor scooter that is sold in specialty stores in the United States. The company uses the same engine for all five models. You have been given the assignment of choosing a supplier for these engines for the coming year. Due to the size of your warehouse and other administrative restrictions, you must order the engines in lot sizes of 1,050 each. Because of the unique characteristics of the engine, special tooling is needed during the manufacturing process for which you agree to reimburse the supplier. Your assistant has obtained quotes from two reliable engine suppliers and you need to decide which to use. The following data have been collected:

Requirements (annual forecast)	12,600	units
Weight per engine	25	pounds
Order processing cost	$165	per order
Inventory carry cost	20	percent of the average value of inventory per year

Note: Assume that half of lot size is in inventory on average (1,050/2 = 525 units).

Two qualified suppliers have submitted the following quotations:

ORDER QUANTITY	SUPPLIER 1 UNIT PRICE	SUPPLIER 2 UNIT PRICE
1 to 1,499 units/order	$ 534	$ 532
1,500 to 2,999 units/order	530	532
3,000 + units/order	529	526
Tooling costs	$27,000	$24,800
Distance	130 miles	100 miles

Your assistant has obtained the following freight rates from your carrier:

Truckload (53,000 lbs. each load):	$0.80 per ton-mile
Less-than-truckload:	$1.20 per ton-mile

Note: Per ton-mile = 2,000 lbs. per mile.

a-1. Calculate the total cost for each supplier. **(Round your answers to the nearest whole number.)**

	Supplier 1	Supplier 2
Total cost	$	$

a-2. Which supplier would you select?

- Supplier 2
- Supplier 1

b-1. If you could move the lot size up to ship in truckload quantities, calculate the total cost for each supplier. **(Do not round intermediate calculations. Round "Required lot size for truckload" and final answers to the nearest whole number.)**

	Supplier 1	Supplier 2
Total cost	$	$