

Skateboard Factory

ACTIVITY

Pati's brother, Tavai, works in a skateboard factory. Tavai's job is to check the quality of the different parts. To do this, he tests a sample of each batch.

1. He checks whether the decks can hold 1 000 kilograms without breaking. Out of the first 20 decks, one cracks.
How many from a stack of 300 might be expected to crack?
2. Tavai uses a machine to test the trucks (axle units) for 240 hours' use. Three out of 20 show a lot of wear.
How many out of a batch of 500 might he expect to show a lot of wear after 240 hours' use?
3. The bearings come with a guarantee: no more than eight in 1 000 will need changing after 1 year's heavy use.
From a batch of 250, how many at most would he expect to need changing after 1 year?
4. Tavai uses a different machine to test the wheels for wear. Three out of 25 need replacing after 1 000 kilometres.
How many out of 1 000 would he expect to need replacing after 1 000 kilometres?
5. a. Overall, after a lot of testing and research, he predicts that up to six skateboards from every 150 might be returned within the 6 month warranty.



That means we'll probably get 12 back out of a batch of 300.



How many might be returned from a batch of:

- i. 450?
 - ii. 100?
 - iii. 250?
- b. The factory had eight skateboards returned from one batch. How big was the batch if Tavai's prediction was correct?

