

The Wheel Shop

Level A

You go to a shop that sells tricycles. There are 18 wheels in the Wheel Shop.



How many tricycles are in the shop?

Explain how you know.

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Level B

The Wheel Shop sells different types of vehicles. There are bicycles and go-carts in a different room of the shop. Each bicycle has only one seat and two wheels, while each go-cart has only one seat and four wheels. There is a total of 21 seats and 54 wheels in that room.



How many are bicycles and how many are go-carts?

Explain how you figured it out.

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Level C

The Wheel Shop sells various types of bicycles, including standard bicycles, tandem bicycles (with two seats, two wheels, and one front handlebar), and adult tricycles. There is a total of 135 seats, 118 front handlebars, and 269 wheels.

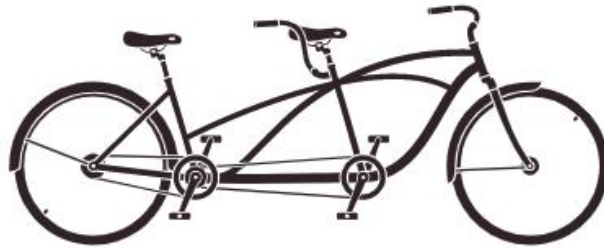


How many bicycles, tandem bicycles, and tricycles are there in the Wheel Shop?

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Level D

The Wheel Shop sells various types of bicycles and accessories. In the back stockroom at the Wheel Shop, the number of seats and horns equals the number of wheels. The number of seats and handlebars equals the number of horns. Twice the number of wheels is equal to three times the number of handlebars. Determine the relationship of horns to seats.



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Level E

The Wheel Shop sells and repairs bicycles. The repair department of the shop repairs three things—flat tires, bent handlebars, and ripped seats. Today in the repair department, 25% of the bikes had flat tires only, 5% had bent handlebars only, and 10% had ripped seats only. Just $\frac{1}{12}$ of the bikes had all three repairs to do—flat tires, bent handlebars, and ripped seats. No bikes were completely fixed, and there is a total of 101 repairs to be made.

How many bikes are in the repair department?

How many bikes need exactly two repairs?

If less than half of all the bikes have a ripped seat, what is the range of bikes that need both the tires and handlebars repaired without needing to fix the seat?



