BUILDING A BETTER BIKE

Modifications for a Freestyle Bike

A freestyle bike must be responsive so the rider can perform stunts. It also must be strong to disperse weight and absorb shock. The top tube slants downward from the head tube to the seat tube, making the bike easier to straddle. The wheels are slightly smaller in diameter.

The following table shows the length of tubes on the generic bicycle. You will take the starting length of each tube and add or subtract the amount shown in the adjustment column. You may use fraction models or equivalent fractions to solve each problem. Be sure to show or explain how you found the answer. Reduce your answers to simplest terms and write the answers in the last column of the table.

Changes to Length

	Starting Length (in inches)	Adjustment	New Length (in inches)
Top Tube	$21\frac{1}{4}$	add $\frac{1}{2}$	$21\frac{3}{4}$
How I found the answer $21\frac{1}{4}+\frac{1}{2}=21\frac{1}{4}+\frac{(1x2)}{(2x2)}=21\frac{1}{4}+\frac{2}{4}=21\frac{3}{4}$			
Seat Tube	$22\frac{1}{8}$	subtract $9\frac{1}{4}$	$12\frac{7}{8}$
How I found the answer $22\frac{1}{8}-9\frac{1}{4}=22\frac{1}{8}-9\frac{(1x2)}{(4x2)}=22\frac{1}{8}-9\frac{2}{8}=21\frac{9}{8}-9\frac{2}{8}=12\frac{7}{8}$			

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	Starting Length (in inches)	Adjustment	New Length (in inches)
Fork	$15\frac{1}{2}$	subtract $6\frac{3}{8}$	$9\frac{1}{8}$
How I found the answer $15\frac{1}{2}-6\frac{3}{8}=15\frac{(1x4)}{(2x4)}-6\frac{3}{8}=15\frac{4}{8}-6\frac{3}{8}=9\frac{1}{8}$			
Head Tube	$6\frac{1}{16}$	subtract $1\frac{1}{8}$	$4\frac{15}{16}$
How I found the answer $6\frac{1}{16}-1\frac{1}{8}=6\frac{1}{16}-1\frac{(1x2)}{(8x2)}=6\frac{1}{16}-1\frac{2}{16}=5\frac{17}{16}-1\frac{2}{16}=4\frac{15}{16}$			
Chain Stays	$18\frac{1}{8}$	subtract $2\frac{3}{4}$	$15\frac{3}{8}$
How I found the answer $18\frac{1}{8}-2\frac{3}{4}=18\frac{1}{8}-2\frac{(3x2)}{(4x2)}=18\frac{1}{8}-2\frac{6}{8}=17\frac{9}{8}-2\frac{6}{8}=15\frac{3}{8}$			
Wheelbase	$41\frac{5}{8}$	subtract $\frac{5}{16}$	$41\frac{5}{16}$
How I found the answer $41\frac{5}{8}-\frac{5}{16}=41\frac{(5x2)}{(8x2)}-\frac{5}{16}=41\frac{10}{16}-\frac{5}{16}=41\frac{5}{16}$			

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