BUILDING A BETTER BIKE

Modifications for a More Comfortable Bike

A bike is more comfortable to ride when it is more upright and stretched out. Some of the tubes on a comfortable bike are curved, making them slightly longer overall. Comfort can also be added by using fat tires, a soft seat, and handle bars that are more upright. Each of these features will also add weight to the bike.

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 $1\frac{5}{8}$	$22\frac{7}{8}$
How I found the answer $21\frac{1}{4}+1\frac{5}{8}=21\frac{(1x2)}{(4x2)}+1\frac{5}{8}=21\frac{2}{8}+1\frac{5}{8}=22\frac{7}{8}$			
Seat Tube	$22\frac{1}{8}$	subtract $3\frac{7}{16}$	$18\frac{11}{16}$
How I found the answer $22\frac{1}{8}-3\frac{7}{16}=22\frac{(1x2)}{(8x2)}-3\frac{7}{16}=22\frac{2}{16}-3\frac{7}{16}=21\frac{18}{16}-3\frac{7}{16}=18\frac{11}{16}$			

	Starting Length (in inches)	Adjustment	New Length (in inches)
Fork	$15\frac{1}{2}$	add $1\frac{3}{4}$	$17\frac{1}{4}$
How I found the answer $15\frac{1}{2}+1\frac{3}{4}=15\frac{(1x2)}{(2x2)}+1\frac{3}{4}=15\frac{2}{4}+1\frac{3}{4}=16\frac{5}{4}=17\frac{1}{4}$			
Head Tube	$6\frac{1}{16}$	subtract $\frac{1}{4}$	$5\frac{13}{16}$
How I found the answer $6\frac{1}{16}-\frac{1}{4}=6\frac{1}{16}-\frac{(1x4)}{(4x4)}=6\frac{1}{16}-\frac{4}{16}=5\frac{17}{16}-\frac{4}{16}=5\frac{13}{16}$			
Chain Stays	$18\frac{1}{8}$	subtract $\frac{7}{16}$	$17\frac{11}{16}$
How I found the answer $18\frac{1}{8}-\frac{7}{16}=18\frac{(1x2)}{(8x2)}-\frac{7}{16}=18\frac{2}{16}-\frac{7}{16}=17\frac{18}{16}-\frac{7}{16}=17\frac{11}{16}$			
Wheelbase	$41\frac{5}{8}$	subtract $2\frac{1}{8}$	$43\frac{7}{8}$
How I found the answer $41\frac{3}{4}+2\frac{1}{8}=41\frac{(3x2)}{(4x2)}+2\frac{1}{8}=41\frac{6}{8}-2\frac{1}{8}=43\frac{7}{8}$			