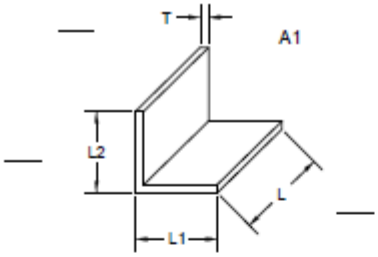
Math Trades 1
Activity #2 - Fractions

Name _____

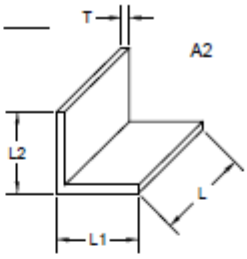
Measure and label your dimensions on the structural shapes below. Be sure to show your unit. **You should not use your calculator on this activity.** Measure to the nearest 16th of an inch.

The labelling is as follows: A – Angle Iron; T – Rectangular Tubing; FB – Flat Bar

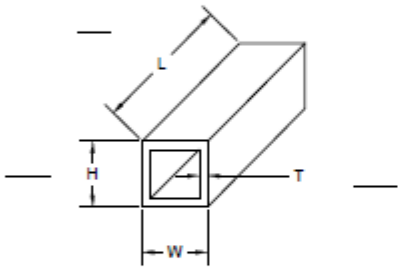
A1



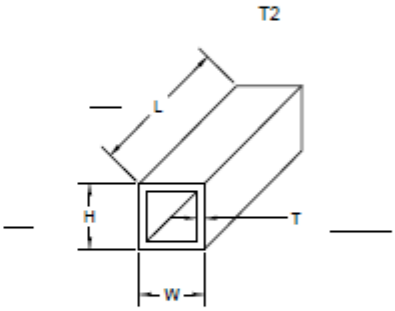
A2



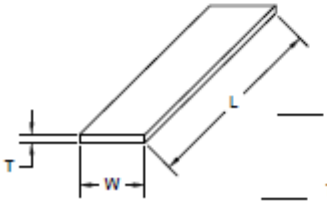
T1



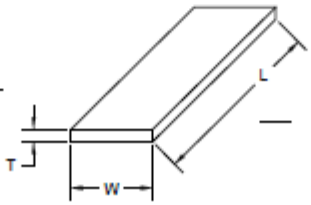
T2



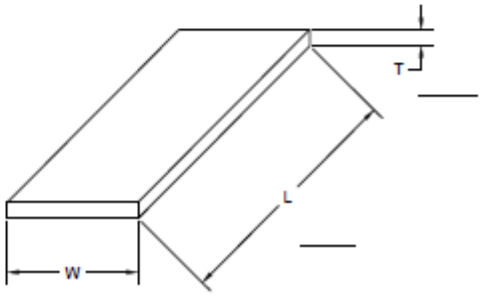
FB1



FB2



FB3



Use the dimensions you measured for each part to solve the following situations by performing the mathematical operation(s) necessary. If possible, with the parts you have, you will be asked to verify your answer by measuring the pieces configured the way described or shown.

1. You need to put a hole in the middle of part A1. What is the dimension from an end to the center? Verify by measuring.

2. You need to put a hole in the middle of part A2. What is the dimension from an end to the center? Verify by measuring.

3. What quantity of part A1 can you get out of an 8' piece of angle iron? Use $\frac{1}{16}$" kerf for each cut.

4. What quantity of part T2 can you get out of a 90" piece of rectangular tubing? Use $\frac{1}{16}$" kerf for each cut.

5. What quantity of part FB1 can you get out of a 20' piece of flat bar? Use $\frac{1}{16}$" kerf for each cut.

6. Put parts A1 and A2 together end to end, what is the total length? Verify by measuring.

7. Put parts T1 and T2 together end to end, what is the total length? Verify by measuring.

8. If you have a $10\frac{9}{16}$" piece of angle iron and cut off one of part A1, how much material is left? Use $\frac{1}{16}$" kerf for each cut.

9. If you have a 14" piece of tubing and cut off one of part T2, how much material is left? Use $\frac{1}{16}$" kerf for each cut.

10. If you have a $25\frac{7}{8}$" piece of flat bar and cut off one of part FB1, how much material is left? Use $\frac{1}{16}$" kerf for each cut.

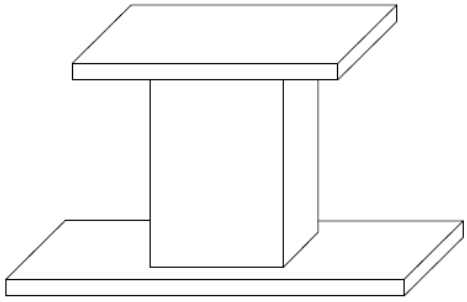
11. If you have a $20\frac{1}{2}$" piece of angle iron and cut off two of part A2, how much material is left? Use $\frac{1}{16}$" kerf for each cut.

12. If you cut 12 pieces of A2, what is the total length of angle iron you need to start off with? Use $\frac{1}{16}$" kerf for each cut.

13. If you cut 45 pieces of FB2, what is the total length of flat bar you need to start off with? Use $\frac{1}{16}$" kerf for each cut.

14. If you cut 20 pieces of FB3, what is the total length of flat bar you need to start off with? Use $\frac{1}{16}$" kerf for each cut.

Use the following figure to answer questions 15-17.

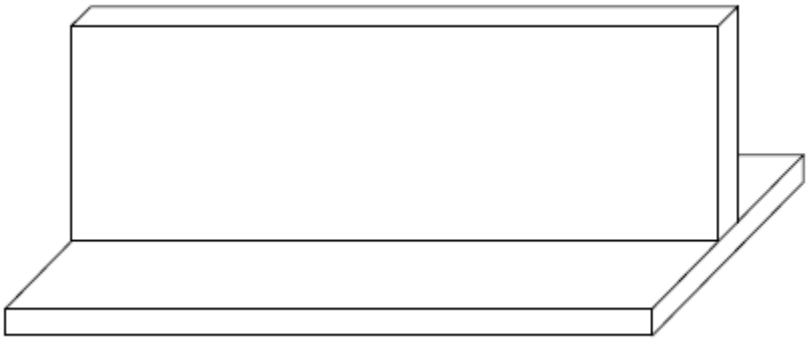


15. With the configuration of parts FB2, A1, and FB3 from top to bottom on the component shown above, what is the total height? Verify by measuring.

16. With the configuration of parts FB2, A2, and FB3 from top to bottom on the component shown above, what is the total height? Verify by measuring.

17. With the configuration of parts FB1, T1, and FB2 from top to bottom on the component shown above, what is the total height? Verify by measuring.

Use the following T-joint figure to answer questions 18-20.



18. Determine the total height of the T-joint created with FB1 and FB2, FB2 being the base. Verify by measuring.

19. Determine the total height of the T-joint created with FB1 and FB3, FB3 being the base. Verify by measuring.

20. Determine the total height of the T-joint created with FB2 and FB3, FB3 being the base. Verify by measuring.

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