1a.

The bar has weight W. You try to support it with two fingers in the positions shown. Can it be equilibrium if you apply just the right forces with your fingers?

W

Yes\_\_\_\_\_\_ No\_\_\_

If you answered No, give a specific equilibrium condition that cannot be satisfied.

1b.

W

The bar has weight W. You try to support it with two fingers in the positions shown. Can it be equilibrium if you apply just the right forces with your fingers?

Yes\_\_\_\_\_\_ No\_\_\_

If you answered No, give a specific equilibrium condition that cannot be satisfied.

1c.

The bar has weight W. You try to support it with two fingers in the positions shown. Can it be equilibrium if you apply just the right forces with your fingers?

W

Yes\_\_\_\_\_\_ No\_\_\_

If you answered No, give a specific equilibrium condition that cannot be satisfied.

1d.

The bar has weight W. You try to support it with two fingers in the positions shown.

W

Can it be equilibrium if you apply just the right forces with your fingers?

Yes\_\_\_\_\_\_ No\_\_\_

If you answered No, give a specific equilibrium condition that cannot be satisfied.

2.

10 lb

15 in.

5 in.

A finger at each end supports the board of negligible weight. A 10 lb weight is placed as shown. Determine forces exerted by the fingers.

Force of finger on left \_\_\_\_\_\_

Force of finger on right \_\_\_\_\_\_

Show your calculations and reasoning.

3a.

Two wood bars are glued together. Their weights are shown. You try to support it with fingers. There is negligible friction between each finger and the wood.

1 lb

2 lb

Can the combined bar be supported with the fingers shown?

Yes\_\_\_\_\_\_ No\_\_\_

If you answered No, give a specific equilibrium condition that cannot be satisfied.

3b.

Two wood bars are glued together. Their weights are shown. You try to support it with fingers. There is negligible friction between each finger and the wood.

1 lb

2 lb

Can the combined bar be supported with the fingers shown?

Yes\_\_\_\_\_\_ No\_\_\_

If you answered No, give a specific equilibrium condition that cannot be satisfied.

3c.

Two wood bars are glued together. Their weights are shown. You try to support it with fingers. There is negligible friction between each finger and the wood.

1 lb

2 lb

Can the combined bar be supported with the fingers shown?

Yes\_\_\_\_\_\_ No\_\_\_

If you answered No, give a specific equilibrium condition that cannot be satisfied.

4.

A board of negligible weight rests on two supports. A 30 lb block is added at the position shown.

A second block of weight W is to be placed at the right end. Is there any limit on the weight W?

Yes\_\_\_ No

If you answered Yes, specify the limits on W.

Show your calculations and reasoning.

30 lb

20 in.

5 in.

15 in.

W