

QUIZ / Mechanics - Statics

NAME

DATE

CLASS PERIOD

Put a check ✓ in the ☐ next to the correct answer.

1. Statics is the study of what?

☐ Forces and moments

☐ Acceleration

☐ Inertia

☐ Weight

☐ Torque

2. Static equilibrium only defines an object at rest.

☐ True

☐ False

3. For an object in static equilibrium ...

☐ Acceleration is zero

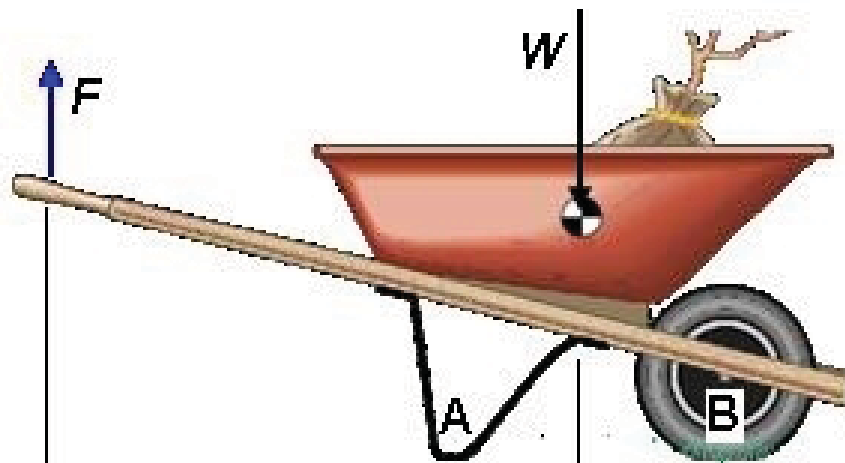
☐ Velocity is zero

☐ No motion at all exists

☐ No external forces act on it

☐ Weight is the only force acting on it

4. The wheelbarrow is in static equilibrium with a load $W=55$ lb, and $F=40$ lb. Determine the normal force at B.



☐ 15 lb

☐ 10 lb

☐ 95 lb

☐ 40 lb

☐ 55 lb

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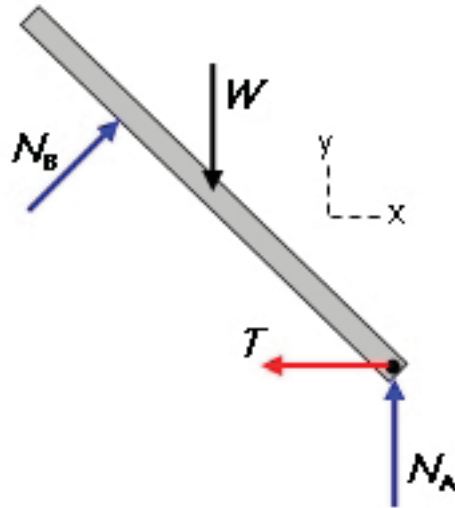
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5. A vector is a quantity with what?

- ☐ Magnitude and direction
- ☐ Direction
- ☐ Color and direction
- ☐ Magnitude and color
- ☐ Multiple forces

6. The bar is in static equilibrium. $W = 15 \text{ N}$, $N_A = 11 \text{ N}$, and N_B , which is perpendicular to the bar, $N_B = 5.66 \text{ N}$. What is the magnitude of tension force T ?



- ☐ 4 lb
- ☐ 5.66 lb
- ☐ 1400 in²
- ☐ 2.83 lb
- ☐ 4.90 lb

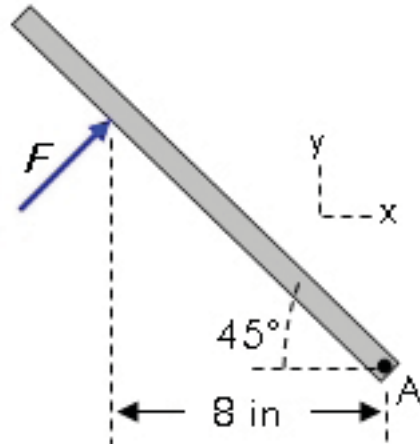
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7. The moment about point A due to force F is $M_A = 45.25$ in-lb. Determine the magnitude of force F . Force F is perpendicular to the bar.



- ☐ 4 lb
 - ☐ 7.42 lb
 - ☐ 10 lb
 - ☐ 5.66 lb
 - ☐ 6 lb
8. When using statics to analyze a robot you are working on, you want to ...
- ☐ Consider loads you expect the robot to encounter
 - ☐ Always start with individual pieces
 - ☐ Consider all internal and external forces
 - ☐ Just consider forces, not moments
 - ☐ Let some one else do the work