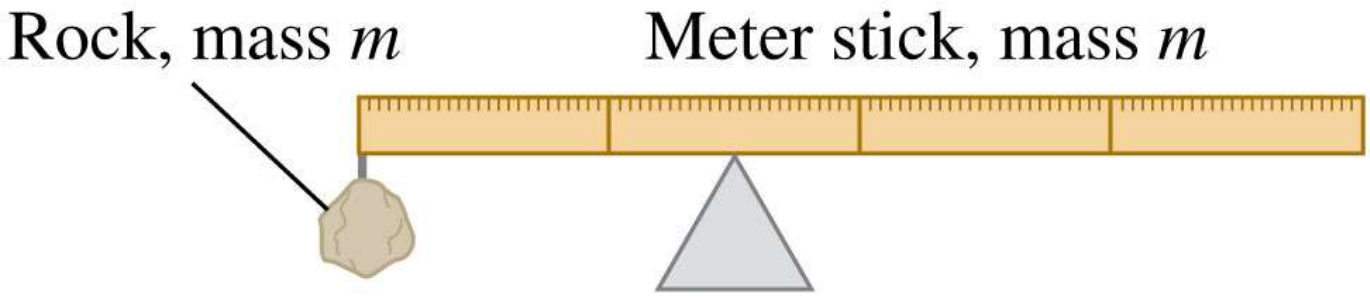
Q11.2

A rock is attached to the left end of a uniform meter stick that has the same mass as the rock. How far from the left end of the stick should the triangular object be placed so that the combination of meter stick and rock is in balance?



A. less than 0.25 m

B. 0.25 m

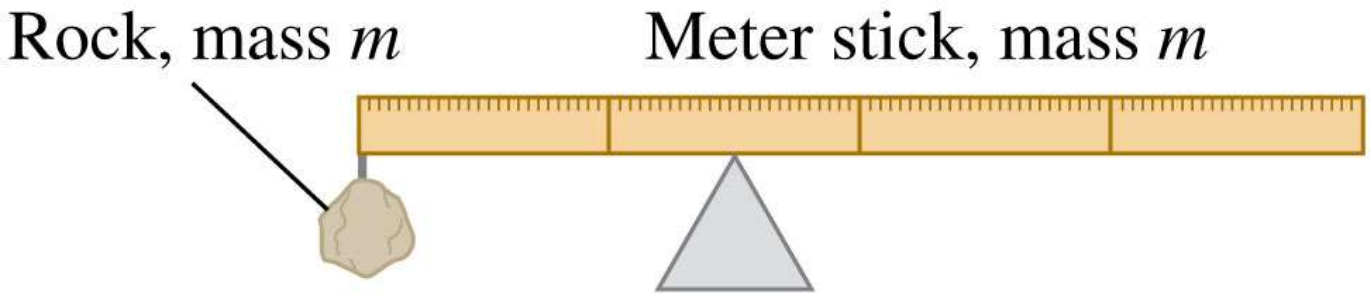
C. between 0.25 m and 0.50 m

D. 0.50 m

E. more than 0.50 m

A11.2

A rock is attached to the left end of a uniform meter stick that has the same mass as the rock. How far from the left end of the stick should the triangular object be placed so that the combination of meter stick and rock is in balance?



A. less than 0.25 m

✔ B. 0.25 m

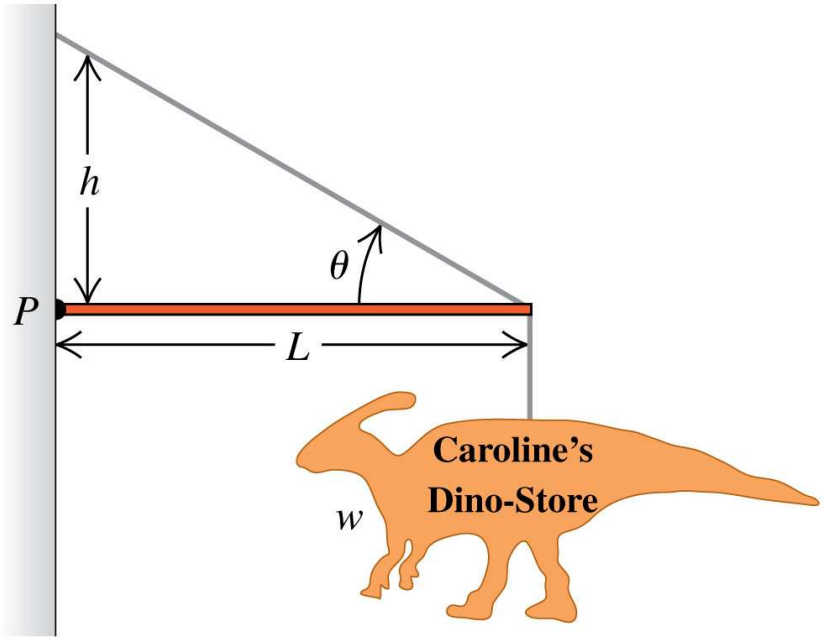
C. between 0.25 m and 0.50 m

D. 0.50 m

E. more than 0.50 m

Q11.3

A metal advertising sign (weight w) is suspended from the end of a massless rod of length L. The rod is supported at one end by a hinge at point P and at the other end by a cable at an angle θ from the horizontal. What is the tension in the cable?



A. $T = w \sin \theta$

B. $T = w \cos \theta$

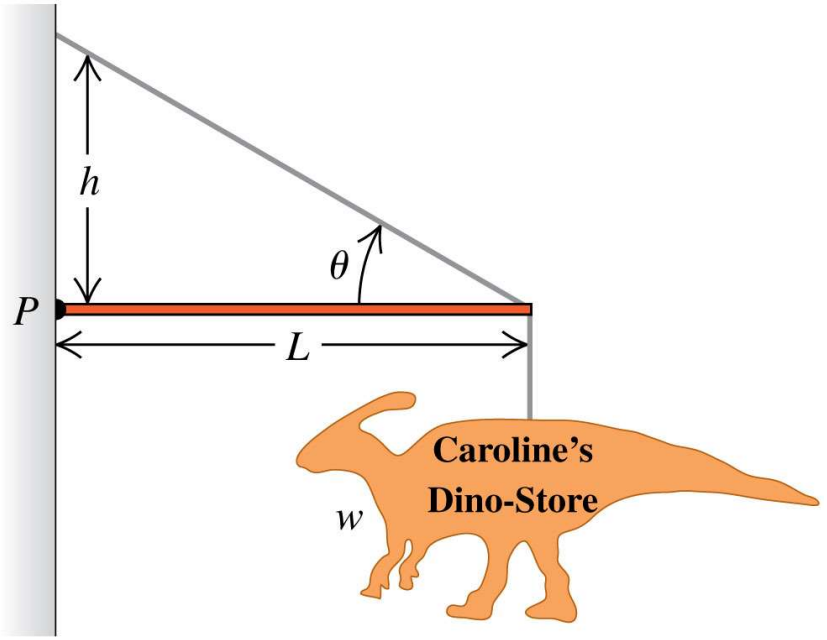
C. $T = w/(\sin \theta)$

D. $T = w/(\cos \theta)$

E. none of the above

A11.3

A metal advertising sign (weight w) is suspended from the end of a massless rod of length L. The rod is supported at one end by a hinge at point P and at the other end by a cable at an angle θ from the horizontal. What is the tension in the cable?



A. $T = w \sin \theta$

B. $T = w \cos \theta$

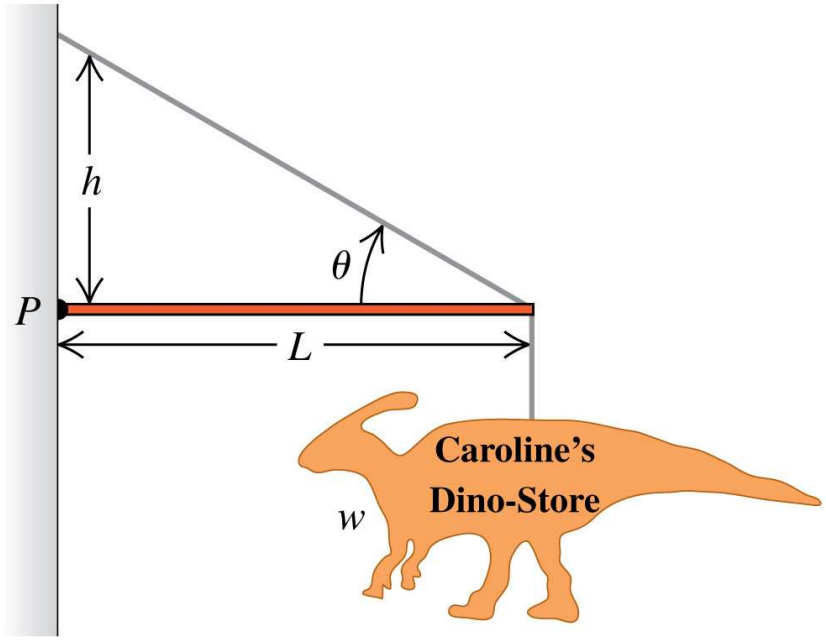
✔ C. $T = w/(\sin \theta)$

D. $T = w/(\cos \theta)$

E. none of the above

Q11.4

A metal advertising sign (weight w) is suspended from the end of a massless rod of length L. The rod is supported at one end by a hinge at point P and at the other end by a cable at an angle θ from the horizontal. Which of these forces is *least*?



A. the weight of the sign

B. the tension in the cable

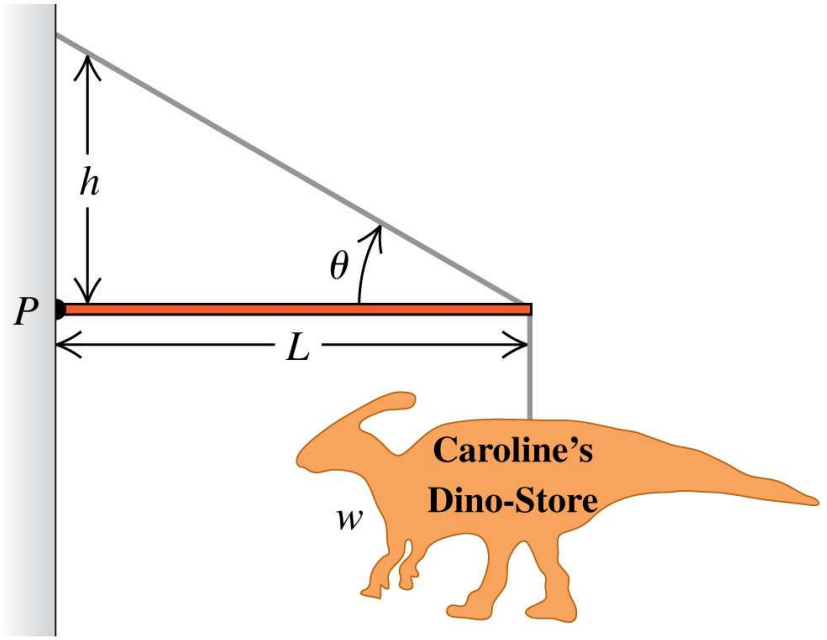
C. the vertical force component exerted on the rod by hinge P

D. two or more of these are tied for least

E. Not enough information is given to decide.

A11.4

A metal advertising sign (weight w) is suspended from the end of a massless rod of length L. The rod is supported at one end by a hinge at point P and at the other end by a cable at an angle θ from the horizontal. Which of these forces is *least*?



A. the weight of the sign

B. the tension in the cable

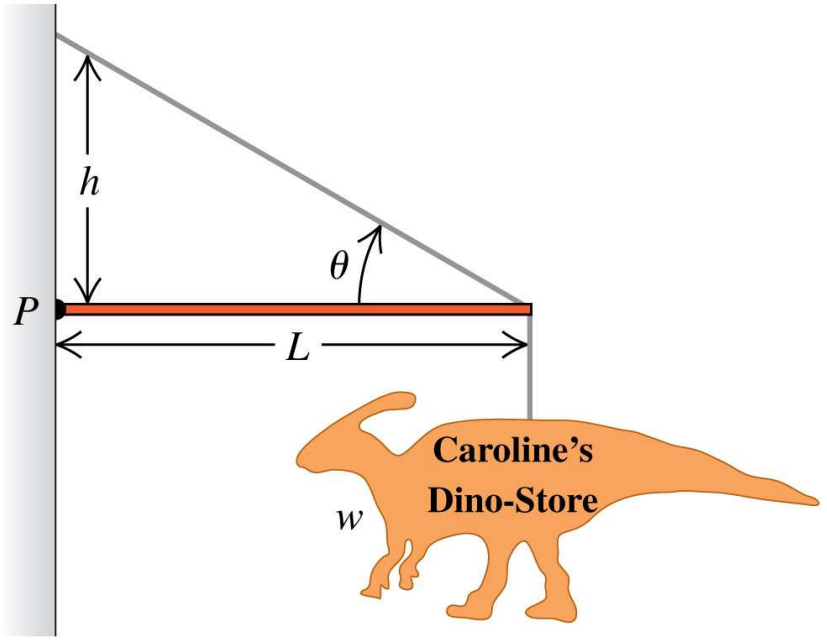
✔ C. the vertical force component exerted on the rod by hinge P

D. two or more of these are tied for least

E. Not enough information is given to decide.

Q-RT11.1

A metal advertising sign (weight w) is suspended from the end of a massless rod of length L. The rod is supported at one end by a hinge at point P and at the other end by a cable at an angle θ from the horizontal. **Rank** the following forces in order of their magnitude, from largest to smallest.



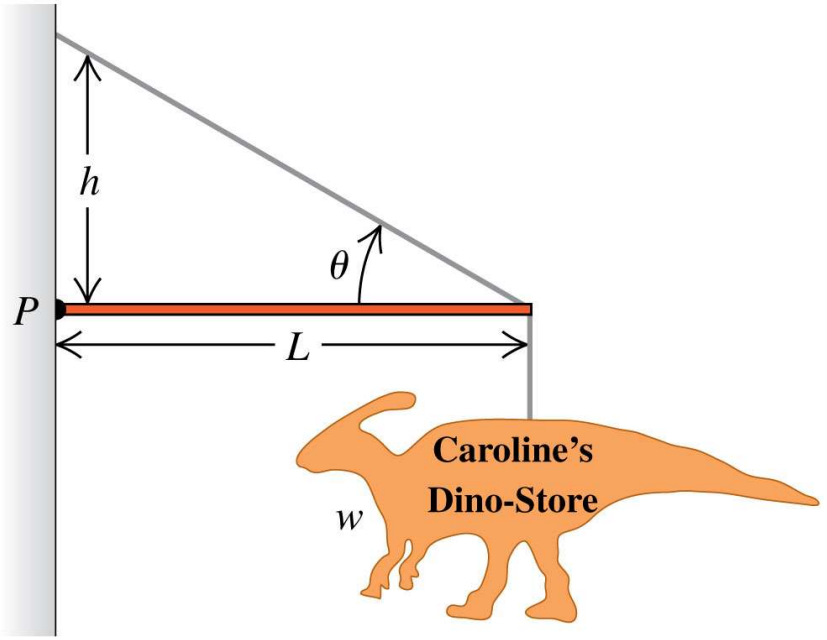
A. The tension in the cable

B. The weight w of the sign

C. The vertical component of force exerted on the rod by the hinge at P

A-RT11.1

A metal advertising sign (weight w) is suspended from the end of a massless rod of length L. The rod is supported at one end by a hinge at point P and at the other end by a cable at an angle θ from the horizontal. **Rank** the following forces in order of their magnitude, from largest to smallest.



A. The tension in the cable

B. The weight w of the sign

C. The vertical component of force exerted on the rod by the hinge at P

✔ Answer: ABC