19. S · Moments

Starter Quiz ·

AQA · A-Level · Mathematics

Name: _____ Score: _____

1. A 35 N force acts at right angles to a spanner, 0.2 m from the nut. Find the moment.

   _____ N m

2. A 300 N child sits 2 m from the pivot of a seesaw. How far on the other side must a 400 N adult sit to balance?

   _____ m

3. A uniform 6 m beam of weight 120 N rests on supports at each end. A 90 N load is 2 m from the left end. Find the reaction at the right end.

   _____ N

4. In the same beam, find the reaction at the left end.

   _____ N

5. Where does the weight of a uniform rod act?

   ☐ At the heavier end

   ☐ At its midpoint

   ☐ At each support

   ☐ At the pivot

6. When a plank is about to tip about support B, the reaction at the other support A is zero.

   ☐ True ☐ False

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Answers ·

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1. **7 N m**

   35×0.2.

2. **1.5 m**

   $600 = 400d$.

3. **90 N**

   About left: $120 \times 3 + 90 \times 2 = 6R$, so $R = 90$.

4. **120 N**

   $210 - 90$.

5. **At its midpoint**

   Uniform means evenly spread mass.

6. **True**

   The plank is just leaving A.