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| **مهندس بوانی تمرین های استاتیک HW#5**  |
| 1. The 0. 61 $×$ 1.00-m lid *ABCD of* a storage bin is hinged alongside *AB* and is held open by looping cord *DEC over* a frictionless hook at *E* . If the tension in the cord is 66 N, determine the moment about each of the coordinate axes of the force exerted by the cord at *D*.
 | 1. For the beam and loading shown, determine (a) the reaction at A,(b) the tension in cable BC.

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| 1. The frame ACD is hinged at A and D and is supported by a cable that passes through a ring at B and is attached to hooks at G and H . Knowing that the tension in the cable is 450 N, determine the moment about the diagonal AD of the force exerted on the frame by portion BH of the cable.
 | 1. A T-shaped bracket supports the four loads shown. Determine the reactions at A and B (a) if a = 10 in., (b) if a = 7 in.

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| 1. For the beam and loading shown, determine the range of the distancea for which the reaction at B does not exceed 100 lb downward or 200 lb upward.

  | 1. The bracket BCD is hinged at C and attached to a control cable at B. For the loading shown, determine (a) the tension in the cable,(b) the reaction at C.

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| 1. For the frame and loading shown, determine the reactions at A and E when (a) a = 30°, (b) a = 45°.

 | 1. Determine the reactions at A and B when (a) $a = 0$, (b) $a = 90°$, (c) $a = 30°$.

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| 1. A rod AB, hinged at A and attached at B to cable BD, supportsthe loads shown. Knowing that $d= 200$ mm, determine (a) the tension in cable BD, (b) the reaction at A.

 | 1. Determine the tension in each cable and the reaction at D.

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