

Lesson IV

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|------------------------|------------------------|------------------------|
| 1. $4\frac{1}{4}$ lbs. | 2. $6\frac{1}{4}$ lbs. | 3. $8\frac{1}{4}$ lbs. |
| 4. 26 lbs. | 5. 36 lbs. | |

Lesson V

To weigh a 200 lb. man.—Arrange the crowbar with the point on a strong support, and spring balance at say 60 in. from the point. Attach a swinging seat at 3 in. from the point. Find the force necessary to support the seat and bar, then let the man sit on the seat and his weight is 20 times the extra force indicated on the balance, because the force arm is 20 times as long as the weight arm.

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| 1. 16 lbs. | 2. 26 lbs. | 3. 1,500 lbs.; 6,000 lbs. |
| 4. 10,800 lbs. | | |

Lesson VI

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| 1. 10 lbs. | 2. 14 lbs. | 3. 11.56 lbs. |
| 4. Less force required to support the weight. | | |

Lesson VII

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| 1. 3 lbs. 6 ozs. | 2. 5 lbs. 6 ozs. | 3. 4 lbs. 5 ozs.; |
| 5 lbs. 5 ozs. ; 6 lbs. 5 ozs. | 4. 2 lbs. | 5. 1 lb. |

Lesson VIII

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| 1. $10\frac{2}{3}$ lbs. | 2. $1\frac{2}{3}$ lbs. | 3. Yes. |
| 4. 20 lbs. | 5. 4 lbs. | 6. Yes. |

Lesson IX

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|-------------------------|------------------------|---------|
| 1. $11\frac{1}{3}$ lbs. | 2. $3\frac{1}{3}$ lbs. | 3. Yes. |
| 4. $1\frac{1}{3}$ lbs. | 5. $9\frac{1}{3}$ lbs. | 6. Yes. |