| Trial | $\mathrm{m}_{1}(\mathrm{~kg})$ | $\mathrm{m}_{2}(\mathrm{~kg})$ | $\mathrm{V}_{\mathrm{in}}(\mathrm{m} / \mathrm{s})$ | $\mathrm{V}_{\mathrm{i} 2}(\mathrm{~m} / \mathrm{s})$ | $\mathrm{p}_{\text {itotal }}(\mathrm{kgm} / \mathrm{s})$ | $\mathrm{KE}_{\text {itotal }}(\mathrm{J})$ |
| :--- | :--- | :---: | :---: | :---: | :---: | :---: |
| 1 | 0.316 | $a 160$ | .46 | 0 |  |  |
| 2 |  |  | .53 | 0 |  |  |
| 3 |  |  | 1.05 |  | $:$ |  |
| 4 |  |  | .88 |  |  |  |

Table 1a: Condition 1 initial values (the light cart is originally at rest) (Make a better caption.)

| Trial | $\mathrm{m}_{1}(\mathrm{~kg})$ | $\mathrm{m}_{2}(\mathrm{~kg})$ | $\mathrm{V}_{\mathrm{fi}}(\mathrm{m} / \mathrm{s})$ | $\mathrm{V}_{\mathrm{f} 2}(\mathrm{~m} / \mathrm{s})$ | $\mathrm{p}_{\text {ftotal }}(\mathrm{kgm} / \mathrm{s})$ | $\mathrm{KE}_{\text {fotal }}(\mathrm{J})$ | $\mathrm{p} \%$ diff | $\mathrm{KE} \%$ diff |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :--- | :--- |
| 1 |  |  | 14 | 56 |  |  |  |  |
| 2 |  |  | .14 | .65 |  |  |  |  |
| 3 |  |  | .29 | 1.24 |  |  |  |  |
| 4 |  |  | .27 | 1.05 |  |  |  |  |

Table 1b: Condition 1 final values (the light cart is originally at rest) (Make a better caption.)

| Trial | $\mathrm{m}_{1}(\mathrm{~kg})$ | $\mathrm{m}_{2}(\mathrm{~kg})$ | $\mathrm{V}_{\mathrm{in}}(\mathrm{m} / \mathrm{s})$ | $\mathrm{V}_{\mathrm{i} 2}(\mathrm{~m} / \mathrm{s})$ | $\mathrm{p}_{\text {itotal }}(\mathrm{kgm} / \mathrm{s})$ | $\mathrm{KE}_{\text {itotal }}(\mathrm{J})$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | $\cdot 60$ | $: 36$ | .45 | 0 |  |  |
| 2 |  |  | 0.68 | 0 |  |  |
| 3 |  |  | 55 | 0 |  |  |
| 4 |  |  | .55 | 0 |  |  |

Table 2a: Condition 2 initial values (the heavy cart is originally at rest)

| Trial | $\mathrm{m}_{1}(\mathrm{~kg})$ | $\mathrm{m}_{2}(\mathrm{~kg})$ | $\mathrm{V}_{\mathrm{fl}}(\mathrm{m} / \mathrm{s})$ | $\mathrm{V}_{\mathrm{f} 2}(\mathrm{~m} / \mathrm{s})$ | ${ }^{\text {p } \text { fotal }}$ (kgm/s | $\mathrm{KE}_{\text {flotal }}(\mathrm{J})$ | p \%diff | KE \%diff |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 |  |  | $-.12$ | .29 |  |  |  |  |
| 2 |  |  | $\square 14$ | . 42 |  |  |  |  |
| 3 |  |  | - -13 | . 34 | . |  |  |  |
| 4 |  |  | -22 | . 50 |  | . |  |  |

Table 2b: Condition 2 final values (the heavy cart is originally at rest)

| Trial | $\mathrm{m}_{1}(\mathrm{~kg})$ | $\mathrm{m}_{2}(\mathrm{~kg})$ | $\mathrm{V}_{\mathrm{in}}(\mathrm{m} / \mathrm{s})$ | $\mathrm{V}_{\text {i2 }}(\mathrm{m} / \mathrm{s})$ | $\mathrm{p}_{\text {itotal }}(\mathrm{kgm} / \mathrm{s})$ | $\mathrm{KE}_{\text {itotal }}(\mathrm{J})$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1 | .160 | .160 | .77 | -.67 |  |  |
| 2 |  |  | .81 | -.57 |  |  |
| 3 |  |  | .83 | -.63 |  |  |
| 4 |  |  | .86 | -.87 |  |  |

Table 3a: Condition 3 initial values (two carts of same mass are moving)

| Trial | $\mathrm{m}_{1}(\mathrm{~kg})$ | $\mathrm{m}_{2}(\mathrm{~kg})$ | $\mathrm{V}_{\mathrm{f} 1}(\mathrm{~m} / \mathrm{s})$ | $\mathrm{V}_{\mathrm{f} 2}(\mathrm{~m} / \mathrm{s})$ | $\mathrm{p}_{\text {fotal }}(\mathrm{kgm} / \mathrm{s})$ | $\mathrm{KE}_{\text {ftotal }}(\mathrm{J})$ | p \%diff | KE \%diff |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1 |  |  | -.53 | .53 |  |  |  |  |
| 2 |  |  | -.47 | .67 |  |  |  |  |
| 3 |  |  | -.48 | 62 |  |  |  |  |
| 4 |  |  | -.66 | .61 |  |  |  |  |

Table 3b: Condition 3 final values (two carts of same mass are moving)

