

## Keys for problem sets

① kg, m, and s.

②

2.30 m

0.019 kg

48,000 m

22.907 kg

5906.3 m

23.77 m

$9.28 \times 10^{-5}$  kg

0.0884 m

③

For example,

trial	Reading
1	0.0323 m
2	0.0325 m
3	0.0320 m
4	0.0322 m
5	0.0315 m

Average  $\Rightarrow$  0.0321 m

Standard deviation  $\Rightarrow$  0.0004 m

The significant figures  $\Rightarrow$  3

Some random error of the measurement should be considered.

④

Percent difference: 4.07%

⑤

Percent error: 1.02%

⑥

The slope must be around 2.23.