

and $P=30$, $30=6$, $\therefore 5=f$, $v=1f$, $\therefore v=25$,
kinetic energy $=\frac{1}{2}mv^2=\frac{1}{2}\times 6\times 25^2=1875$.

The working-power is the product of the force into the velocity of its point of application in the direction of the force. $Pv=30\times 25=750$.

5. State Newton's laws of motion.

A mass of 10 lbs is urged along a rough horizontal plane by a force equal to the weight of 3 lbs., acting parallel to the plane, the co-efficient of friction being .05. Determine the acceleration.

5. $F=\mu R=.05\times 10=.5$. $\therefore$ moving force $=3-.5=2.5$. Now mass $\times$ acceleration $=$ moving force, $10\times$ acceleration $=2.5$, acceleration $=\frac{1}{4}$.

MODERN LANGUAGES.

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EXERCISES IN ENGLISH.

1. Select, classify, and give the relation of the phrases in the following:—

(a) In the summer they live in tents made of skins.

(b) On our entrance, the foreman, leaving his work, came forward to meet us.

(c) The houses, which are built with great regularity, are well adapted to protect them against the severity of the climate.

(d) The habits of these people have been made familiar to us by the accounts of travellers who have from time to time visited the island.

(e) Near by may be seen a fortune-teller, with crafty look, explaining to some simpleton his destiny in life from a number of books arranged before him on a small table.

2. State the grammatical equivalence and relation of the dependent clauses in the following:—

(a) He came early that he might get a good seat.

(b) The plan that you have suggested is a very good one.

(c) The proposal that we should divide the proceeds seems fair.

(d) It was so dark that I could not see them.

(e) Can you show me the spot where you found it?

(f) I can't tell you when it happened.

3. Change the voice of the verbs in the following:—

(a) Here may be seen specimens of their workmanship.

(b) He has taken the greatest pains to make it plain.

(c) The runners are made of whalebone, whenever that can be procured.

(d) The lawyer asked him several questions.

(e) Our opponents have lost sight of this fact.

4. Expand the following simple sentences into complex or compound:—

(a) He manifested no surprise on hearing the news.

(b) A marble pillar marks the scene of the memorable interview.

(c) After some weeks in prison they were allowed to return home.

(d) Two frigates escaped, only to be captured next day, however.

(e) They resolved to seek among strangers the freedom denied to them at home.

(f) Long before the expiration of his sentence they had become convinced of his innocence of the charges brought against him.

5. Divide into clauses, and tell the kind and relation of each:—

(a) In the new land that lay before them they sought a home where they might live as conscience directed them.

(b) As they advanced farther into the continent, they began to hear tidings of a boundless sea, which stretched away to the south and west.

(c) Wishing to know what had become of the moose, I followed the bloody trail for some miles, until I came to a spot where the animal had lain down for a time.

6. Arrange in as many ways as you can without destroying the sense, and say which you think best, and why:—

(a) I shall never consent to such a proposal while I live.

(b) A scene of woe then ensued, the like of which no eye had ever seen.