**Concept-Development
Practice Page**   **9-2**

Conservation of Energy

1. Fill in the blanks for the six systems shown.

PE = 15000 J
KE = 0

PE = 30 J   PE = _____   PE = _____

PE = _____

PE = _____   KE = _____

PE = 11250 J
KE = _____

$v = 30 \frac{km}{h}$ $v = 60 \frac{km}{h}$ $v = 90 \frac{km}{h}$
KE = 10^6 J   KE = _____   KE = _____

PE = 7500 J
KE = _____

PE = 3750 J
KE = _____

PE = 10^4 J

WORK DONE = _____

PE = _____
KE = 0

PE = 25 J
KE = _____

PE = 0 J
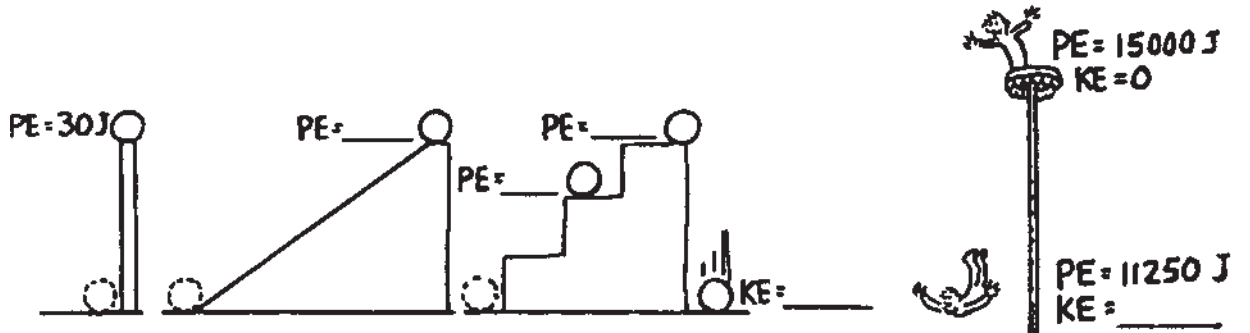KE =

PE = 0
KE = 50 J

PE = 10 J
KE = 0

PE = 2 J
KE = _____

PE = 0
KE = _____

PE = _____
KE = _____

CONCEPTUAL PHYSICS
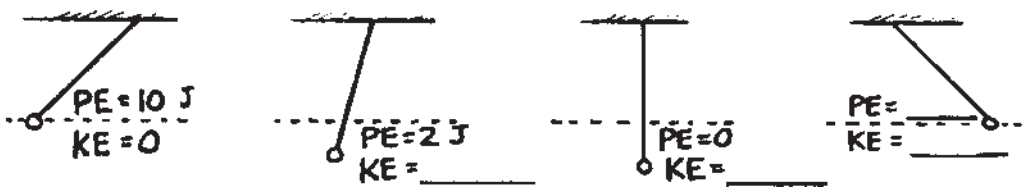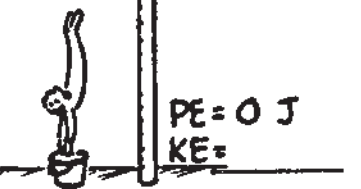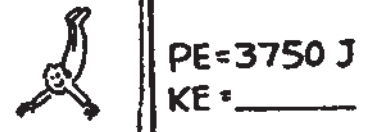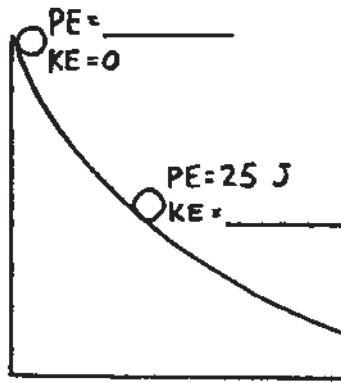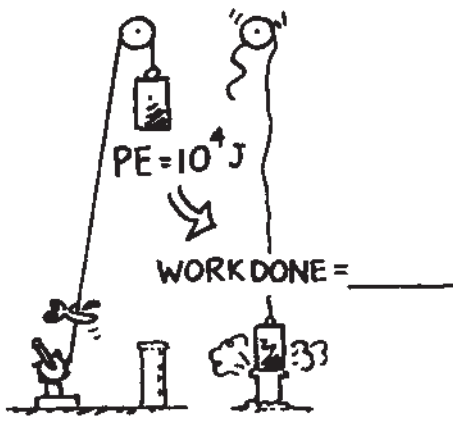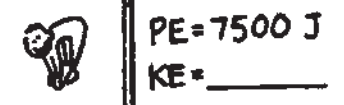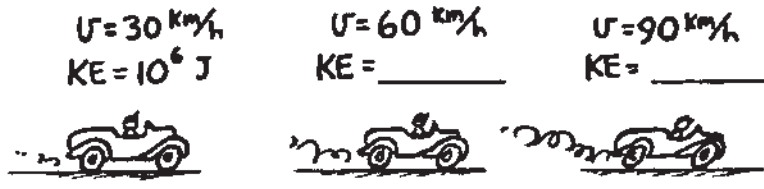
2. The woman supports a 100-N load with the friction-free pulley systems shown below. Fill in the spring-scale readings that show how much force she must exert.
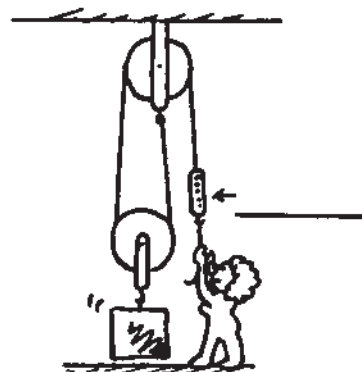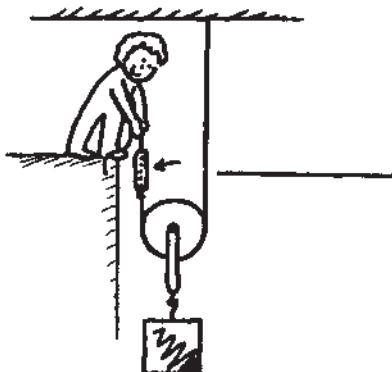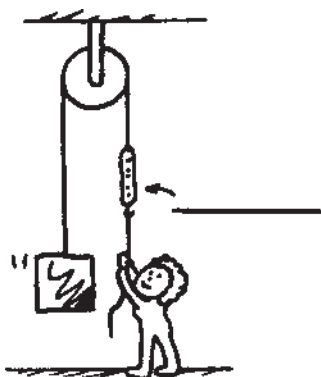
3. A 600-N block is lifted by the friction-free pulley system shown.

   a. How many strands of rope support the 600-N weight?

   _____

   b. What is the tension in each strand?

   _____

   c. What is the tension in the end held by the man?

   _____

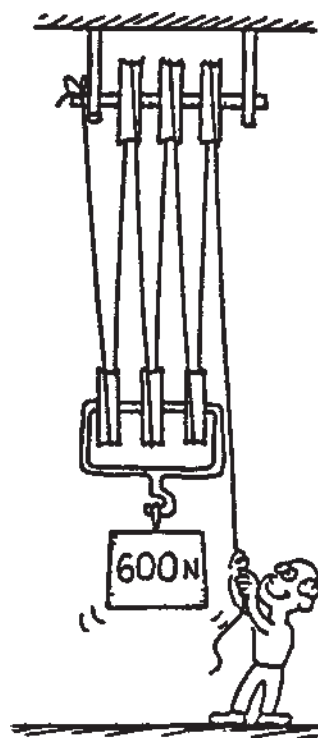   d. If the man pulls his end down 60 cm, how many cm will the weight rise?

   _____

   e. What is the ideal mechanical advantage of the pulley system?

   _____

   f. If the man exerts 60 joules of work, what will be the increase of PE of the 600-N weight?

   _____

4. Why don't balls bounce as high during the second bounce as they do in the first?

   _____

   _____

   _____

CONCEPTUAL PHYSICS