$\qquad$
$\qquad$ Date: $\qquad$

1. As a 1.0 kg object moves from point $A$ to point $B$, it is acted upon by a single conservative force which does -40 J of work during this motion. At point A the speed of the particle is $6.0 \mathrm{~m} / \mathrm{s}$ and the potential energy associated with the force is +50 J . What is the potential energy in J at point B?

Select the correct answer.
a. +10
b. +68
c. +28
d. +90
e. +72
2. A force $F$ applied to mass $m_{1}$ produces an acceleration of $4.0 \mathrm{~m} / \mathrm{s}^{2}$.

When the same force $F$ is applied to mass $m_{2}$ it produces an acceleration of $8.0 \mathrm{~m} / \mathrm{s}^{2}$. What acceleration, in $\mathrm{m} / \mathrm{s}^{2}$, would be produced if the two masses were placed together and the same force $F$ was applied?

Select the correct answer.
a. 3.1
b. 0.71
c. 2.7
d. 0.33
e. 0.38
3. If $F=5.0 \mathrm{~N}$, what is the magnitude of the force in N exerted by block 2 on block 1? (Assume the surface is frictionless.)


Select the correct answer.
a. 19
b. 5.0
c. 21
d. 17
e. 23
4. If the mass density of a $3 \times 10^{6} \mathrm{~kg}$ mass is $2 \times 10^{4} \mathrm{~kg} / \mathrm{m}^{3}$, what volume in $\mathrm{m}^{3}$ does the mass occupy to the nearest order of magnitude?

Select the correct answer.
a. $10^{3}$
b. $10^{1}$
c. $10^{5}$
d. $10^{2}$
e. $10^{4}$

ANSWER KEY

Name:
Class:
Date:

1. d
2. c
3. d
4. d
5. d
6. d
