

Talambuhay ni jose p laurel



**ASSIGN
BUSTER**

1. If you push for an hour against a stationary wall, you do no work

- A) on the wall.
- B) at all.
- C) both of these
- D) None of these

2. If you push an object twice as far while applying the same force you do

- A) twice as much work.
- B) four times as much work.
- C) the same amount of work.

3. If you push an object just as far while applying twice the force you do

- A) twice as much work.
- B) four times as much work.
- C) the same amount of work.

4. If you push an object with twice the work input for twice the time, your power input is

- A) twice.
- B) four times as much.
- C) the same amount as for half the work in half the time.

5. A job is done slowly, while an identical job is done quickly. Both jobs require the same amount of work, but different amounts of

- A) energy.
- B) power.
- C) both of these.

- D) none of these.

6. If you do work on an object in half the usual time, your power output is

- A) half the usual power output.
- B) the usual power output.
- C) twice the usual power output.

7. Exert 1 N for a distance of 1 m in 1 s and you deliver a power of

- A) 1 W.
- B) 2 W.
- C) $\frac{1}{3}$ W.
- D) 3 W.
- G) none of these.

8. Do 100 J of work in 50 s and your power output is

- A) $\frac{1}{4}$ W.
- B) $\frac{1}{2}$ W.
- C) 2 W.
- D) 4 W more than 4 W.

9. When an object is raised above the ground it gains a certain amount of potential energy. If the same object is raised twice as high it gains

- A) four times as much potential energy.
- B) twice as much potential energy.
- C) neither of these.

10. When an object is lifted 10 meters, it gains a certain amount of potential energy. If the same object is lifted 20 meters, its potential energy gain is

- A) twice as much.
- B) four times as much.
- C) more than 4 times as much.

11. A 1000-kg car and a 2000-kg car are hoisted the same distance in a gas station. Raising the more massive car requires

- A) less work.
- B) as much work.
- C) twice as much work.
- D) four times as much work.
- G) more than 4 times as much work.

12. An object that has kinetic energy must be

- A) moving.
- B) falling.
- C) at an elevated position.
- D) at rest. m) none of these.

13. An object that has potential energy may have this energy because of its

- A) speed.
- B) acceleration.
- C) momentum.
- D) location.
- G) none of these.

14. Bullets are fired from an airplane in the forward direction of motion. The momentum of the airplane will be

- A) decreased.
- B) unchanged.
- C) increased.

15. A clerk can lift containers a vertical distance of 1 meter or can roll them up a 2 meter-long ramp to the same elevation. With the ramp, the applied force required is about

- A) half as much.
- B) twice as much.
- C) the same.

16. A bow is drawn so that it has 40 J of potential energy. When fired, the arrow will ideally have a kinetic energy of

- A) less than 40 J.
- B) more than 40 J.
- C) 40 J.

17. No work is done by gravity on a bowling ball that rolls along a bowling alley because

- A) no force acts on the ball.
- B) no distance is covered by the ball.
- C) the force on the ball is at right angles to the ball's motion.
- D) no potential energy is being converted to kinetic energy.
- G) it's kinetic energy remains constant.

18. Which requires more work: lifting a 50-kg sack vertically 2 meters or lifting a 25-kg sack vertically 4 meters?

- A) lifting the 50-kg sack
- B) lifting the 25-kg sack
- C) Both require the same amount of work.

19. A 50-kg sack is lifted 2 meters at the same time as a 25-kg sack is lifted 4 meters. The power expended in raising the 50-kg sack compared to the power used to lift the 25-kg sack is

- A) twice as much.
- B) half as much.
- C) the same.

20. A TV set has pushed a distance of 2 m with a force of 20 N that is in the same direction as the set moves. How much work is done on the set?

- A) 2 J
- B) 10 J
- C) 20 J
- D) 40 J
- G) 80 J

21. It takes 40 J to push a large box 4 m across a floor. Assuming the push is in the same direction as the move, what is the magnitude of the force on the box?

- A) 4 N
- B) 10 N
- C) 40 N
- D) 160 N
- G) None of these

22. A 2-kg mass is held 4 m above the ground. What is the approximate potential energy of the mass with respect to the ground?

- A) 20 J
- B) 40 J
- C) 60 J
- D) 80 J none of these.

23. A 2-kg mass has 40 J of potential energy with respect to the ground. Approximately how far is it located above the ground?

- A) 1 m
- B) 2 m
- C) 3 m
- D) 4 m
- G) None of these

24. A heavy pile driver starting from rest falls on a pile with a force that depends on

- A) the original height of the driver.
- B) the original potential energy of the driver.
- C) the distance the pile is moved.
- D) all of these.
- G) none of these.

25. Using 1000 J of work, a toy elevator is raised from the ground floor to the second floor in 20 seconds. How much power does the elevator use?

- A) 20 W
- B) 50 W

- C) 100 W
- D) 1000 W
- G) 20, 000 W

26. One end of a long, uniform log is raised to shoulder level. Another identical log is raised at its center to the same level. Raising the second log requires about

- A) the same amount of work.
- B) twice as much work.
- C) more than twice as much work.

27. Two identical arrows, one with twice the kinetic energy of the other, are fired into a hay bale. The faster arrow will penetrate

- A) the same distance as the slower arrow.
- B) twice as far as the slower arrow.
- C) four times as far as the slower arrow. more than four times as far as the slower arrow.
- D) none of these.

28. A car moves 4 times as fast as another identical car. Compared to the slower car, the faster car has

- A) 4 times the KE.
- B) 8 times the KE.
- C) 12 times the KE.
- D) 16 times the KE.

29. A ball is projected into the air with 100 J of kinetic energy which is transformed to gravitational potential energy at the top of its trajectory.

When it returns to its original level after encountering air resistance, its kinetic energy is

- A) less than 100 J.
- B) more than 100
- C.) 100 J.
- D) not enough information is given.

30. Strictly speaking, if any electrical device in your car is turned on (such as an air conditioner, headlights, or even a radio) more gasoline is burned by the engine. This statement is

- A) totally false.
- B) true only if the car's engine is running.
- C) true only if the car's engine is stopped.
- D) almost always true.
- G) none of these.

31. A machine puts out 100 Watts of power for every 1000 Watts put into it. The efficiency of the machine is

- A) 10%.
- B) 50%.
- C) 90%.
- D) 110%.
- G) none of these.

32. An ungloved fist will do more damage to a jaw than a gloved fist. The reason for this is that the ungloved fist

- A) delivers a larger impulse to the jaw.

- B) exerts a larger force on the jaw.
- C) has less air resistance on it.
- D) none of these.

33. A woman lifts a box from the floor. She then moves with constant speed to the other side of the room, where she puts the box down. How much work does she do on the box while walking across the floor at a constant speed?

- A) zero
- B) more than zero
- C) more information needed to determine

34. Two pool balls, each moving at 2 m/s, roll toward each other, and collide. Suppose after bouncing apart, each moves at 4 m/s. This collision violates conservation of

- A) momentum.
- B) kinetic energy.
- C) both of these.
- D) none of these.

35. Compared to a recoiling rifle, the bullet fired has a greater

- A) momentum.
- B) kinetic energy.
- C) none of these.
- D) both of these.

36. A bullet has more kinetic energy than the recoiling rifle from which it is fired is because the force on the bullet acts over a longer

- A) time.
- B) distance.
- C) both of these.
- D) neither of these.

37. An open freight car rolls friction-free along a horizontal track in pouring rain that falls vertically. As water accumulates in the car, the car's speed

- A) increases.
- B) decreases.
- C) doesn't change.

38. A car has a head-on collision with another car with the same magnitude of momentum. An identical car driving at the same speed as the first car runs into an enormously massive wall. The greater impulse will occur on the car that is in the collision with the

- A) approaching the car.
- B) the wall.
- C) both impulses will be the same.

39. A popular swinging-balls apparatus (shown below) consists of an aligned row of identical elastic balls suspended by strings so that the balls barely touch each other. When two balls are lifted from one end and released, they strike the row and two balls pop out from the other end.

40. Figure 7-D

41. If instead one ball popped out with twice the velocity of the two, this would be a violation of conservation of

- A) momentum.
- B) energy.
- C) both of these.
- D) none of these.

42. If instead one ball popped out with kinetic energy equal to the combined kinetic energy of the two, this would be a violation of conservation of

- A) momentum.
- B) energy.
- C) both of these.
- D) neither of these.

43. A golf ball is thrown at and bounces backward from a massive bowling ball that is initially at rest. After the collision, compared to the golf ball, the bowling ball has more) momentum, but less kinetic energy.

- A) kinetic energy, but less momentum.
- B) momentum and more kinetic energy.
- C) but it has less momentum and less kinetic energy.
- D), not enough information is given to say.

44. A piece of taffy slams into and sticks to another identical piece of taffy that is at rest. The momentum of the two pieces stuck together after the collision is the same as it was before the collision, but this is not true of the kinetic energy, which is partly turned into heat. What percentage of the kinetic energy is turned into heat?

- A) 0%
- B) 25%

- C) 50%
- D) 75%
- G), not enough information given

45. Two identical freight cars roll without friction (one at 1 m/s, the other at 2 m/s) toward one another on a level track. They collide, the couple together, and roll away in the direction that

- A) the slower car was initially going.
- B) the faster car was initially going.
- C) neither of these -- they stop.

46. Two 5000-kg freight cars roll without friction (one at 1 m/s, the other at 2 m/s) toward one another on a level track. They collide, couple and roll away together with a combined momentum of

- A) zero.
- B) 5000 kg m/s.)
- C) 10, 000 kg m/s.
- D) 15, 000 kg m/s.

47. Which requires the most amount of work on the brakes of a car?

- A) slowing down from 100 km/h to 70 km/h
- B) slowing down from 70 km/h to a stop
- C) equal amounts for either

48. A car that travels twice as fast as another when braking to a stop will skid

A) twice as far.

B) four times as far.

C) depends on the mass of cars.

49. Two identical arrows, one with twice the speed of the other, are fired into a hay bale. The faster arrow will penetrate

- A) the same distance as the slower arrow.
- B) twice as far as the slower arrow.
- C) four times as far as the slower arrow. more than four times as far as the slower arrow.
- D) none of these.

50. A person on the edge of a roof throws a ball downward. It strikes the ground with 100 J of kinetic energy. The person throws another identical ball upward with the same initial speed, and this too falls to the ground. Neglecting air resistance, the second ball hits the ground with a kinetic energy of

- A) 100 J.
- B) 200 J.
- C) less than 100 J.
- D) of more than 200 J.
- G) none of these.

Answer Keys :

1. Answer: A
2. Answer: A
3. Answer: A
4. Answer: C

5. Answer: B

6. Answer: C

7. Answer: A

8. Answer: C

9. Answer: B

10. Answer: C

11. Answer: C

12. Answer: A

13. Answer: D

14. Answer: A

15. Answer: A

16. Answer: C

17. Answer: C

18. Answer: C

19. Answer: C

20. Answer: D

21. Answer: B

22. Answer: D

23. Answer: B

24. Answer: D

25. Answer: B

26. Answer: B

27. Answer: B

28. Answer: D

29. Answer: A

30. Answer: D

31. Answer: A
32. Answer: B
33. Answer: A
34. Answer: B
35. Answer: B
36. Answer: B
37. Answer: B
38. Answer: C
39. Answer: B
40. Answer: A
41. Answer: B
42. Answer: A
43. Answer: C
44. Answer: C
45. Answer: B
46. Answer: C
47. Answer: A
48. Answer: B
49. Answer: B
50. Answer: A