

Solution
PHYSICS
MHT - CET - Physics

1.

(d) 6s

Explanation:

6s

2. **(a)** the radius of curvature of the projectile at the highest point is $\frac{u^2 \cos^2 \theta}{g}$.

Explanation:

the radius of curvature of the projectile at the highest point is $\frac{u^2 \cos^2 \theta}{g}$.

3. **(a)** 1.11 m/s²

Explanation:

1.11 m/s²

4.

(b) $\frac{3}{2}mv^2$

Explanation:

$\frac{3}{2}mv^2$

5.

(d) $V = \frac{GM}{r}$

Explanation:

$V = \frac{GM}{r}$

6.

(d) 'g' on the Earth will not change.

Explanation:

'g' on the Earth will not change.

7.

(b) 273 K.

Explanation:

273 K.

8.

(c) specific heat

Explanation:

specific heat

9.

(d) 1.5×10^6 Hz

Explanation:

1.5×10^6 Hz

10.

(b) 6

Explanation:

11. **(d)** particle nature.
Explanation:
particle nature.
12. **(c)** less than 42°
Explanation:
less than 42°
13. **(d)** $< \sigma, V, < E$
Explanation:
 $< \sigma, V, < E$
14. **(d)** CB
Explanation:
CB
15. **(b)** behaves as perfect insulator.
Explanation:
behaves as perfect insulator.
16. **(d)** 35 m/s
Explanation:
35 m/s
17. **(a)** 60 rpm
Explanation:
60 rpm
18. **(d)** 0.1 kg-m^2
Explanation:
 0.1 kg-m^2
19. **(d)** 108 rad
Explanation:
108 rad
20. **(c)** independent of x
Explanation:
independent of x

21.

(b) $\frac{1}{2\pi} \sqrt{\frac{\mu g}{A}}$

Explanation:

$\frac{1}{2\pi} \sqrt{\frac{\mu g}{A}}$

22.

(b) square of amplitude of motion.

Explanation:

square of amplitude of motion.

23.

(c) 2.828

Explanation:

2.828

24.

(d) 2×10^{-1} J

Explanation:

2×10^{-1} J

25.

(a) surface tension.

Explanation:

surface tension.

26.

(c) 6

Explanation:

6

27.

(a) neither pressure nor density

Explanation:

neither pressure nor density

28.

(c) 16

Explanation:

16

29.

(c) 0.25 atm

Explanation:

0.25 atm

30.

(d) 2×10^5 N/m²

Explanation:

2×10^5 N/m²

31.

(d) 10400 J

Explanation:

10400 J

32.

(d) induced charges of opposite signs appear on each surface of dielectric.

Explanation:

induced charges of opposite signs appear on each surface of dielectric.

33.

(d) $1 - \frac{1}{k}$

Explanation:

$1 - \frac{1}{k}$

34.

(b) in same plane.

Explanation:

in same plane.

35. **(a)** No interference

Explanation:

No interference

36.

(d) $\lambda_a = \lambda_m \tan i_p$

Explanation:

$\lambda_a = \lambda_m \tan i_p$

37.

(c) 15Ω

Explanation:

15Ω

38.

(b) 0.5 A

Explanation:

0.5 A

39.

(d) $\frac{\mu_0}{2\pi d} (I_1^2 + I_2^2)^{\frac{1}{2}}$

Explanation:

$\frac{\mu_0}{2\pi d} (I_1^2 + I_2^2)^{\frac{1}{2}}$

40. **(a)** shape of loop.

Explanation:

shape of loop.

41.

(b) $\frac{5}{4} \mu_0$

Explanation:

$\frac{5}{4} \mu_0$

42.

(c) Ferromagnetic

Explanation:

Ferromagnetic

43.

(b) magnetic flux is maximum and e.m.f. is zero

Explanation:

magnetic flux is maximum and e.m.f. is zero

44.

(d) is counter clockwise.

Explanation:

is counter clockwise.

45. (a) quantisation of energy.

Explanation:

quantisation of energy.

46. (a) $\frac{e-1}{e}$

Explanation:

$$\frac{e-1}{e}$$

47. (a) stationary circular orbits

Explanation:

stationary circular orbits

48. (a) one proton + 2 neutrons

Explanation:

one proton + 2 neutrons

49.

(d) $\frac{1}{40} A, \frac{7}{120} A$

Explanation:

$$\frac{1}{40} A, \frac{7}{120} A$$

50.

(c) Option (d)

Explanation:

Curve (I) and (III) represent heat rejected and work done by the gas respectively.