

Examrace

National Standard Examination in Astronomy (NSEA) Solved Paper 2016 Part-18

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Q: 62. ΔABC is equilateral with each side being of unit length and P is an interior point then the maximum product of the length AP . BP and CP is

(A) $\frac{1}{\sqrt[5]{3}}$

(B) $\frac{1}{\sqrt[4]{3}}$

(C) $\frac{1}{\sqrt[3]{3}}$

(D) $\frac{1}{6}$

Answer: (C)

Q: 63. The resultant of the forces P and Q is R if Q is doubled then R gets doubled. If Q is reversed even then R gets doubled. Then

(A) $P : Q : R = \sqrt{2} : \sqrt{3} : \sqrt{2}$

(B) $P : Q : R = \sqrt{2} : \sqrt{2} : \sqrt{3}$

(C) $P : Q : R = \sqrt{3} : \sqrt{3} : \sqrt{2}$

(D) $P : Q : R = \sqrt{2} : \sqrt{3} : \sqrt{3}$

Answer: (A)

Q: 64. The unit digit of $23^{2015} \times 7^{2016} \times 13^{2017}$ is

(A) 1

(B) 3

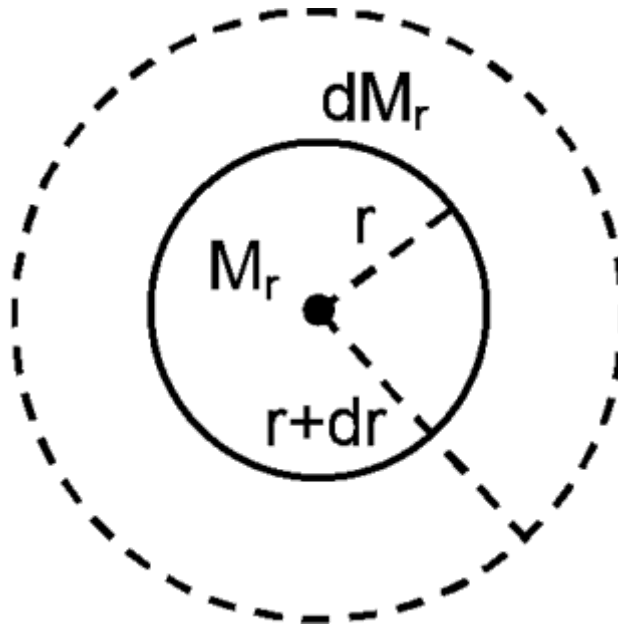
(C) 7

(D) 9

Answer: (A)

Q: 65. Linked question (65 - 69)

A star can be considered as a spherical ball of hot gas of radius R . Inside the star, the density of the gas is ρ_r at a radius r and mass of the gas within this region is M_r . The correct differential equation for variation of mass with respect to radius is (refer to the adjacent figure)



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- (A) $\frac{dm_r}{dr} = \frac{4}{3}\pi\rho_r r^3$
- (B) $\frac{dm_r}{dr} = 4\pi\rho_r r^2$
- (C) $\frac{dm_r}{dr} = \frac{2}{3}\pi\rho_r r^2$
- (D) $\frac{dm_r}{dr} = \frac{1}{3}\pi\rho_r r^2$

Answer: (B)

For detailed explanations and answers visit - [NSEA Answers with detailed explanations](#)

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