PCAT Q&As

Pharmacy College Admission Test

Pass PCAT PCAT Exam with 100% Guarantee

Free Download Real Questions & Answers **PDF** and **VCE** file from:

https://www.leads4pass.com/pcat.html

100% Passing Guarantee
100% Money Back Assurance

Following Questions and Answers are all new published by PCAT Official Exam Center

QUESTION 1

i3 –i3/2 =

A. $i^{3/2}$
B. $-i$
C. $\sqrt{i}$
D. $\sqrt{-i}$

A. Option

B. Option

C. Option

D. Option

Correct Answer: D

Simplify the expression:

$$i^{\frac{6}{2}} - i^{\frac{3}{2}} = i^{\frac{3}{2}} = \sqrt{i^3}$$
$$i = \sqrt{-1}$$
$$i^3 = -\sqrt{-1} = -i$$
$$\sqrt{i^3} = \sqrt{-i}$$

QUESTION 2

The addition of HBr with peroxide and an alkene yields what product?

A. Markovnikov\\'s product

B. anti-Markovnikov\\'s product

C. Saytzeff\\'s product

D. the ortho product

Correct Answer: B

In the absence of peroxide, HBr plus an alkene yields Markovnikov\\'s product. But, in the presence of peroxide, the result of the reaction is an anti-Markovnikov\\'s product.

QUESTION 3

If f(x) = 3x + 2, what is f-1(x) ?

A. 2x + 3

B. (x - 2) / 3

C. (3x - 2) / 3

D. -2/3

Correct Answer: B

f(x) = y,

y = 3x + 2 x = 3y + 2 (replacing x an y variables) x - 2 = 3y y = f-1(x) = (x ?2) / 3

QUESTION 4

The rate law for a reaction is of the second order. Which statement is true?

A. The rate must depend on both reactants.

B. The reaction must depend on the square of one reactant.

C. The reaction must depend on only k squared.

D. The reaction must depend on at least one of the reactants.

Correct Answer: D

In a second-order reaction the reaction rate is dependent upon either the product of the reactants, or the square of one of the reactants.

QUESTION 5

In a certain genetically stable population, the frequency of a recessive allele (for a trait with two alleles) is

0.6. What is the frequency of individuals expressing the dominant trait?

A. 0.64

B. 0.36

C. 0.24

D. 0.16

Correct Answer: A

The question stem asks you to determine the frequency of individuals expressing the dominant trait in a genetically stable population. However, before you do that, you need to determine the allelic frequencies in the population. This question involves a practical application of the Hardy-Weinberg equation. The Hardy-Weinberg equilibrium states that within a genetically stable population, the gene frequencies of dominant and recessive alleles will not change over time.

Two mathematical expressions are associated with the Hardy-Weinberg equilibrium. The first relationship, p + q = 1, describes the relative allelic frequencies in a population. p is defined as the frequency of the dominant allele and q is defined as the frequency of the recessive allele, and the sum of both those frequencies adds up to 1, or 100%. The second relationship, p2

+ 2pq+ q2 = 1, describes the relative genotypic frequencies in the population. p2 represents homozygous, or dominant pp genotypes; q2 represents homozygous, or frequency of the dominant allele, p, by the mathematical relationship p + q = 1. Therefore, the frequency of p is 0.4 because 0.6 + 0.4 = 1. Next, you need to determine the frequency of individuals expressing the dominant trait by recessive qq genotypes; and 2pq represents the frequency of heterozygotes, or hybrids.applying the second relationship, p2 + 2pq+ q2 = 1. The individuals expressing the dominant trait are those that have the pp and pq genotypes, so to find the total frequency of individuals expressing the dominant trait, you add p2 and 2pq. Thus, p2 = 0.4 ? 0.4, or 0.16 and 2pq = 2 ?0.6 ?0.4, or 0.48. If you add the two together, you get 0.16 + 0.48, or 0.64. Thus,

0.64 is the correct frequency of individuals expressing the dominant trait.