

Practice 14

Level : 2

Trigonometric Ratios - Functions - Limits

1. Researchers in a local area found that the population of rabbits with an initial population of 20 grew continuously at a rate of 5% per month. The gazelle population had an initial value of 30 and grew at a rate of 3% per month. Determine how many months it takes the two populations to be equal.

A 20.27 C 14.19
B 18.05 D 13.1

4. Find $\lim_{x \rightarrow 9} \frac{\sqrt{x}-3}{x-9}$.

A 1/4 C 1/7
B 1/5 D 1/6

2. What is the $\lim_{x \rightarrow 2} f(x)$?

x	1.9	1.99	1.999	2.001	2.01
$f(x)$	3.1	3.01	3.001	2.999	2.99

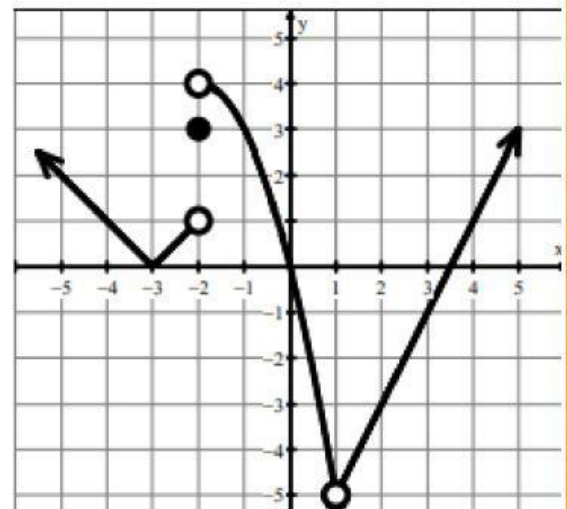
A 3 C 2
B 1 D 3.5

3. Evaluate $\lim_{x \rightarrow -2} (3x^3 + x^2 - 4x + 5)$.

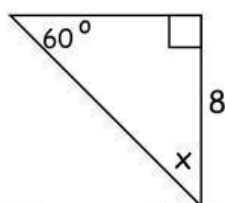
A 6 C -6
B 7 D -7

5.

- a. $\lim_{x \rightarrow -3} f(x) =$ b. $f(1) =$ c. $\lim_{x \rightarrow 1} f(x) =$
d. $\lim_{x \rightarrow -2^+} f(x) =$ e. $f(3) =$ f. $\lim_{x \rightarrow -2^-} f(x) =$
g. $\lim_{x \rightarrow -2} f(x) =$ h. $f(-2) =$ i. $f(4) =$



6. What is the value of $\sin(x)$?



A 1 C 2/3
B 1/2 D 3/4

7. Evaluate $\lim_{x \rightarrow 3} \frac{x^2-9}{x-3}$.

A 3 C 9
B 6 D 12