أسئلة استرشادية للصف الثاني الثانوي

رياضيات (١) للقسم العلمي باللغة الإنجليزية

Question (1):

$$\lim_{x \to 1} \frac{x^3 - 6x}{5x} = \cdots$$

A. -1

B. $\frac{7}{5}$

C. zero

D. -5

Question (2):

In ΔABC , if b = 5 cm , $m(\angle B) = 30°$, then length of the diameter of the circumcircle of ΔABC equals …… cm.

A. $\frac{10\sqrt{3}}{3}$

B. 2.5

C. 10

D. $\frac{5\sqrt{3}}{2}$

Question (3) :

If $\lim_{h\to 0} \frac{(1+3h)^4 - 1}{h} = k, then\ k = \cdots$

A. 6

B. 4

C. 3

D. 12

Question (4)

The rule which does not represent a function is ……

A. $y = x^3+2$, $x \in [1,3[$

B. $y = 2x$, $x \in \mathbb{R}$

C. $y = \begin{cases} 2x + 1 & , x \geq 2 \\ x^2 - 1 & , x \leq 2 \end{cases}$

D. $y = \begin{cases} x+1 & , x > 3 \\ 2x & , x \leq 3 \end{cases}$

Question (5) :

In ΔABC , if a = 4 cm , $m(\angle A) = 35°$, $m(\angle B) = 85°$, then the perimeter of $\Delta ABC \simeq$…….. cm.

A. 16

B. 17

C. 18

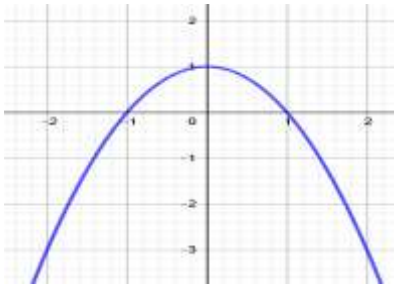
D. 19

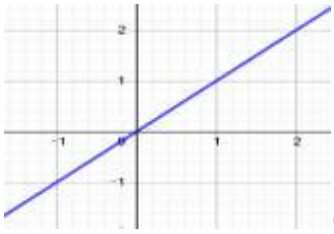
Question (6) :

If f and g are two real functions where $f(x)= x^2-4$ and $g(x)=\sqrt{8-x}$, then determine the domain of the function $\frac{g}{f}(x)$.

Question (7) :

The graph which represents a cubic function is ……..


(A)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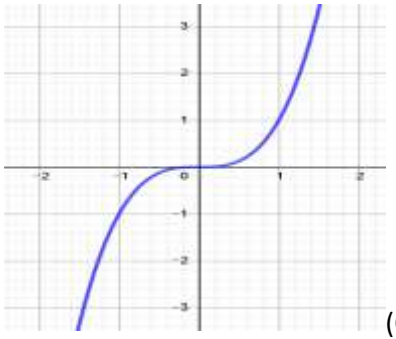
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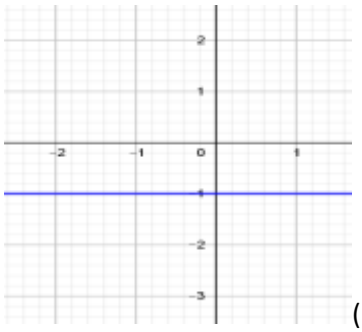
(D)

A. (B)

B. (A)

C. (C)

C. (D)

Question (8) :

The function f where $f(x)=\begin{cases} 2-x & , -2 \le x \le 1 \\ x & , 1 < x \le 5 \end{cases}$

is ……..

A. decreasing on]-2 , 1[

B. decreasing on]1 , 5[

C. increasing on]-2 , 5[

D. increasing on]-2 , 1[

Question (9) :

If $f : \mathbb{R}^* \to \mathbb{R}$ where $f(x)=\frac{1}{x}+3$, then f(x) is ……..

A. odd

B. even

C. not one-to-one

D. one-to-one

Question (10) :

If the graph of the function f : $f(x) = \log_{\frac{1}{2}} x$ passes through the point (512 , k),then find the value of k.

Question (11) :

Find $\lim\limits_{x \to 0} \dfrac{2\sin^2 x}{1-\cos^4 x}$

Question (12) :

If ABCD is parallelogram, then $\frac{AD}{\sin(\angle DBA)}$ = ……..

A. $\frac{BC}{\sin(\angle CBD)}$

B. $\frac{AB}{\sin(\angle ABD)}$

C. $\frac{DC}{\sin(\angle DBC)}$

D. $\frac{\sin(\angle A)}{BD}$