

Question 1

Not yet answered

Marked out of 10

Let $A = \{0, 1, 2, 3, 4, 6, 7\}$, $B = \{n \in \mathbb{Z} : \text{there is } m \in \mathbb{Z} \text{ such that } n = 2m\}$. Choose elements of $A \cup B$ among the following.

- ☐ 0
- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7
- ☐ 8
- ☐ 9
- ☐ 10

Choose elements of $A \cap B$ among the following.

- ☐ 0
- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7
- ☐ 8
- ☐ 9
- ☐ 10

Question 2

Not yet answered

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Let $A = \{x \in \mathbb{R} : x^2 - 6x + 8 > 0\}$. Write A as a union of intervals: $A = (-\infty, \boxed{\text{a}}) \cup (\boxed{\text{b}}, \infty)$.

Question 3

Not yet answered

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Let $A = \{x \in \mathbb{R} : x^3 - x^2 - 2x > 0\}$. Write A as a union of intervals: $A = (\boxed{a}, \boxed{b}) \cup (\boxed{b}, \infty)$.

$\boxed{a}$: $\boxed{b}$: $\boxed{c}$:

Question 4

Not yet answered

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Let $A = \{(x, y) \in \mathbb{R} \times \mathbb{R} : y = x^2 + 1\}$. Choose all $(x, y) \in A$ among the following.

☐ $(-2, 0)$ ☐ $(-2, 3)$ ☐ $(-1, 2)$ ☐ $(-1, 4)$ ☐ $(0, -2)$ ☐ $(0, -1)$ ☐ $(1, 2)$ ☐ $(1, 3)$ ☐ $(2, -2)$ ☐ $(2, 5)$ ☐ $(3, 0)$ **Question 5**

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Let $A = \{(x, y) \in \mathbb{R} \times \mathbb{R} : y < x^3 - 1\}$. Choose all $(x, y) \in A$ among the following.

☐ $(-2, 0)$ ☐ $(-2, 3)$ ☐ $(-1, 2)$ ☐ $(-1, 4)$ ☐ $(0, -2)$ ☐ $(0, -1)$ ☐ $(1, 2)$ ☐ $(1, 3)$ ☐ $(2, -2)$ ☐ $(2, 5)$ ☐ $(3, 0)$

Question 6

Not yet answered

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Let $A = \{x \in \mathbb{R} : x^3 - x^2 - 2x > 0\}$.

This set A is

- ☐ not bounded either above or below
☐ bounded above but not below
☐ bounded below but not above
☐ bounded (both above and below)

Determine $\inf A = \boxed{\text{a}}$.

$\boxed{\text{a}}$:

Question 7

Not yet answered

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Let $A = \{\sum_{k=1}^n (\frac{1}{2})^k \in \mathbb{R} : n \in \mathbb{N}\}$.

Determine $\sup A = \boxed{\text{a}}$ and $\inf A = \frac{\boxed{\text{b}}}{\boxed{\text{c}}}$.

$\boxed{\text{a}}$: $\boxed{\text{b}}$: $\boxed{\text{c}}$:

Question 8

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Compute the sum. $\sum_{n=1}^4 (n^2 + 1) = \boxed{\text{a}}$.

$\boxed{\text{a}}$:

Question 9

Not yet answered

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Compute the product. $\prod_{n=1}^3 (1 - \frac{1}{2^n}) = \frac{\boxed{\text{a}}}{\boxed{\text{b}}}$.

$\boxed{\text{a}}$: $\boxed{\text{a}}$:

Question 10

Not yet answered

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Expand $(2x + y)^4 = \boxed{\text{a}}x^4 + \boxed{\text{b}}x^3y + \boxed{\text{c}}x^2y^2 + \boxed{\text{d}}xy^3 + \boxed{\text{e}}y^4$.

$\boxed{\text{a}}$: $\boxed{\text{b}}$: $\boxed{\text{c}}$: $\boxed{\text{d}}$: $\boxed{\text{e}}$:

