

Math 181 Honors Quiz 1 Version A

1. Solve the quadratic equation $3x^2 - 2x - 5 = 0$.

2. State the value of $\cos(\pi/6)$ exactly.

3. Simplify the expression $\log(e^{17})$ where \log stands for the natural logarithm.

4. State the general formula for finding the sum $1 + 2 + \cdots + n$.

5. Find the sum $\sum_{k=1}^{26} \frac{1}{2}$.

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6. Given the sets $A = \{1, 2, 3\}$ and $B = \{1, 2, 3, 4\}$ which of the following is true:

- (A) $A \subseteq B$
- (B) $B \subseteq A$
- (C) $A \cup B = \{1, 2, 3, 4\}$
- (D) $A \cup B = \{1, 2, 3\}$
- (E) $A \cap B = \{1, 2, 3, 4\}$
- (F) $A \cap B = \{1, 2, 3\}$
- (G) $A - B = \emptyset$
- (H) $A - B = \{4\}$
- (I) $B - A = \emptyset$
- (J) $B - A = \{4\}$

7. Use roster notation to designate the set of real numbers $\{x \in \mathbf{R} : x^2 - 1 = 0\}$.

8. Simplify $\left(\frac{2}{3} + \frac{3}{2}\right)^{-1}$.