If \( f(x) = \begin{cases} 
\sqrt{x} + 4 & \text{for } x > 4 \\
 x^2 - 1 & \text{for } x \leq 4 
\end{cases} \)

Evaluate \( f(f(f((-2)))) \)

Answer : ________________________

Round 1 2 3 4 5

If \( f(x) = \begin{cases} 
\sqrt{x} + 4 & \text{for } x > 4 \\
 x^2 - 1 & \text{for } x \leq 4 
\end{cases} \)

Evaluate \( f(f((-2))) \)

Answer : ________________________

Round 1 2 3 4 5
-3x + 2y + 4z = 10
- y - 2z = 8
7x + 3y + 2z = -2

Find the sum of x + y + z

Answer: ________________________

Round 1 2 3 4 5

-3x + 2y + 4z = 10
- y - 2z = 8
7x + 3y + 2z = -2

Find the sum of x + y + z

Answer: ________________________

Round 1 2 3 4 5
Determine the sum of the reciprocal of the roots for the following polynomial equation:

\[ x^3 - 3x + 2 = 0 \]

Answer : _______________________

Round 1 2 3 4 5

Determine the sum of the reciprocal of the roots for the following polynomial equation:

\[ x^3 - 3x + 2 = 0 \]

Answer : _______________________

Round 1 2 3 4 5
Determine the sum of the first 10 numbers in an arithmetic sequence with $a_1 = -3$ and $a_{17} = 29$?

Answer: ______________________

Round 1 2 3 4 5

Determine the sum of the first 10 numbers in an arithmetic sequence with $a_1 = -3$ and $a_{17} = 29$?

Answer: ______________________

Round 1 2 3 4 5
What is the value of $\log_2 C^4$ if $C = \sqrt[3]{\sqrt{8}}$?

Answer: __________________________

Round 1 2 3 4 5

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What is the value of $\log_2 C^4$ if $C = \sqrt[3]{\sqrt{8}}$?

Answer: __________________________

Round 1 2 3 4 5
Given $4x - \frac{2}{3}y = 8$ and $kx - 15y = 17$

Find the value of $k$ that makes the two equations perpendicular.

Answer: __________________________

Round 1 2 3 4 5

Answer: __________________________

Round 1 2 3 4 5
How many terms are in the expansion of 
\((a + b + c + d + e)^7\)?
The roots of a polynomial $H(x)$ are 2, -2, 3, and 4. The constant term of $H(x)$ is 24. Find the sum of the coefficients of $H(x)$.

Answer: ________________________

Round 1 2 3 4 5

The roots of a polynomial $H(x)$ are 2, -2, 3, and 4. The constant term of $H(x)$ is 24. Find the sum of the coefficients of $H(x)$.

Answer: ________________________

Round 1 2 3 4 5
\[ \frac{3}{x^2 - 5x - 6} = \frac{a}{x - 3} + \frac{b}{x - 2} \]

What is the sum of \( a + b \)?

Answer : ________________________  
Round 1 2 3 4 5

\[ \frac{3}{x^2 - 5x - 6} = \frac{a}{x - 3} + \frac{b}{x - 2} \]

What is the sum of \( a + b \)?

Answer : ________________________  
Round 1 2 3 4 5
Evaluate
\[ \log_{10} \frac{1}{2} + \log_{10} \frac{2}{3} + \log_{10} \frac{3}{4} + \cdots + \log_{10} \frac{99}{100} \]

Answer: ________________________

Round 1 2 3 4 5

Answer: ________________________

Round 1 2 3 4 5
Evaluate $\sum_{k=1}^{10} k^3$

Answer: ________________________

Round 1 2 3 4 5

Evaluate $\sum_{k=1}^{10} k^3$

Answer: ________________________

Round 1 2 3 4 5
Find the sum of all integers \( n \) such that \( \lfloor \frac{n}{3} \rfloor = 4 \)

**Answer:** ________________________

**Round** 1 2 3 4 5

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Find the sum of all integers \( n \) such that \( \lfloor \frac{n}{3} \rfloor = 4 \)

**Answer:** ________________________

**Round** 1 2 3 4 5
Find the slant asymptote of
\[ f(x) = \frac{(x-2)(3x-1)}{x+1} \]

Answer: ________________________

Round 1 2 3 4 5

Find the slant asymptote of
\[ f(x) = \frac{(x-2)(3x-1)}{x+1} \]

Answer: ________________________

Round 1 2 3 4 5
Evaluate $\log_4(256^{2020})$

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Answer: ________________________

Round 1  2  3  4  5

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Answer: ________________________

Round 1  2  3  4  5

Evaluate $\log_4(256^{2020})$

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Answer: ________________________

Round 1  2  3  4  5

---

Answer: ________________________

Round 1  2  3  4  5
Find the sum of the solutions to

\[ x = \sqrt{2x} + 35 \]

Answer: ________________________

Round 1 2 3 4 5

Find the sum of the solutions to

\[ x = \sqrt{2x} + 35 \]

Answer: ________________________

Round 1 2 3 4 5
If $3^x = 6$, find the value of $9^{x-1}$

Answer: ________________________

Round 1 2 3 4 5

If $3^x = 6$, find the value of $9^{x-1}$

Answer: ________________________

Round 1 2 3 4 5
Simplify \( \frac{5+12i}{2-3i} \).

Express answer in a + bi form, where a and b are real numbers.

Answer: ________________________

Round 1 2 3 4 5

Express answer in a + bi form, where a and b are real numbers.

Answer: ________________________

Round 1 2 3 4 5
For what value(s) of $k$ is $x - 1$ a factor of $x^3 + 3kx^2 + k^2x + k - 1$?

Answer: ________________________

Round 1  2  3  4  5

For what value(s) of $k$ is $x - 1$ a factor of $x^3 + 3kx^2 + k^2x + k - 1$?

Answer: ________________________

Round 1  2  3  4  5
Find the area of the conic defined by the equation 
\[4x^2 + 9y^2 - 8x + 90y + 193 = 0\]

Answer: ________________________

Round 1 2 3 4 5

Find the area of the conic defined by the equation 
\[4x^2 + 9y^2 - 8x + 90y + 193 = 0\]

Answer: ________________________

Round 1 2 3 4 5
Let \( f(x) = x^{10} - 2x^6 + 4 \). Find the remainder when \( f(x) \) is divided by \( 7x - 14 \).

Answer: ________________________

Round 1 2 3 4 5

Answer: ________________________

Round 1 2 3 4 5
The circle $x^2 = 6x - 2y + 10 - y^2$ is inscribed within a square. What is the area of the square?

Answer: ________________________

Round 1 2 3 4 5

Answer: ________________________

Round 1 2 3 4 5
Find $|(2 + 2i)^6|$
How many ways can six students stand in a straight line if two students refuse to stand next to one another?

Answer: ________________________

Round 1 2 3 4 5

How many ways can six students stand in a straight line if two students refuse to stand next to one another?
Evaluate the series: \( \frac{1}{2} + \frac{2}{6} + \frac{3}{18} + \frac{4}{54} + \ldots \)

Answer: ________________________

Round  1  2  3  4  5

Evaluate the series: \( \frac{1}{2} + \frac{2}{6} + \frac{3}{18} + \frac{4}{54} + \ldots \)

Answer: ________________________

Round  1  2  3  4  5
Find the eccentricity of the following conic:

$$\frac{(y - 3)^2}{25} - \frac{(x + 1)^2}{144} = 1$$

Answer: ________________________

Round 1 2 3 4 5

Find the eccentricity of the following conic:

$$\frac{(y - 3)^2}{25} - \frac{(x + 1)^2}{144} = 1$$

Answer: ________________________

Round 1 2 3 4 5