Consider the given equation that models a train's distance from its departing station, where:
- \( y \) represents the distance in miles,
- \( x \) represents the speed of the train in miles per hour, and
- \( t \) represents the time traveled from the departing station in hours.

\[ y = xt \]

Enter an equation for which the solution is the speed of the train, in miles per hour, where the train's distance from the departing station is 192 miles and it has traveled for 3 hours.

\[ \frac{1}{x} = 9 \]

Which of the following is a solution to the equation \( x^2 = -16 \)?

- a) \( x = 4 \)
- b) \( x = -4 \)
- c) \( x = 8 \)
- d) \( x = -8 \)
- e) This equation has no solution.

Which equation includes the minimum or maximum value of \( f \) as a number that appears in the equation?

- a) \( f(x) = x^2 - 4x - 5 \)
- b) \( f(x) = x^2 - 5x + x - 5 \)
- c) \( f(x) = (x - 2)^2 - 9 \)
- d) \( f(x) = (x - 5)(x + 1) \)

For the given equation, enter the value of \( V \) when \( r = 200 \).

\[ r = 10\sqrt{V} \]

Enter the value of \( x \) that makes the equation true.

\[ \frac{1}{x} = 9 \]

A sales clerk’s daily earnings include $130 per day plus commission equal to \( x \) percent of his daily sales. Enter an equation that can be used to find the commission percentage \( (x) \), if the clerk’s daily sales are $1525 and his total earnings for that day are $210.

\[ 32p^2 + 50 = 0 \]

Select the function, with domain \( n = \{1, 2, 3, 4, 5\} \), that defines this sequence.

- A. \( f(n) = 8n \)
- B. \( f(n) = 8(2)^{n-1} \)
- C. \( f(n) = 8n^2 \)
- D. \( f(n) = 8(n - 1) \)

Solve the given equation for \( v \).

\[ t = \frac{\sqrt{v}}{2} \]
DAY 3

Select Yes or No to indicate whether each value of \( b \) is a solution to the given equation.

\[ \frac{2}{3} = \frac{3}{b + 1} \]

<table>
<thead>
<tr>
<th>Solution</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>( b = 2 )</td>
<td></td>
<td></td>
</tr>
<tr>
<td>( b = \frac{7}{2} )</td>
<td></td>
<td></td>
</tr>
<tr>
<td>( b = \frac{2}{7} )</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Let \( \sin(35^\circ) = 0.5736 \). Enter an angle measure \( (\alpha) \), in degrees, where \( \cos(\alpha) = 0.5736 \).

Enter the value of \( p \) that makes the equation true.

\[ \frac{1}{p - 4} = \frac{5}{p} \]

Enter an expression that is equivalent to \( a^{12} \) in the form \( (a^x)^y \).

Enter the value for \( p \) that makes the given equation true.

\[ 26 = p - 7 \]

DAY 4

A student was finding the solutions to the equation \( 2 + \sqrt{x - 3} = 0 \) and wrote the four steps shown.

Step 1: \( \sqrt{x - 3} = -2 \)
Step 2: \( (\sqrt{x - 3})^2 = (-2)^2 \)
Step 3: \( x - 3 = 4 \)
Step 4: \( x = 7 \)

Write a number in the box to create an equation that is true for all values of \( x \).

\( (x + 3)^2 - 7 = x^2 + 6x + \text{_____} \)

Enter an inequality that represents all possible values for the clerk’s sales, \( s \), on Monday.

Select the expression that is equivalent to \( \frac{d^5}{d^4} \) in the form \( d^m \).

\[ a) \ (x - 3)^2 \]
\[ b) \ (x + 3)(x - 3) \]
\[ c) \ x^2 - 3x + 9 \]
\[ d) \ x^2 + 3x + 9 \]

DAY 5

Consider the equation that gives the minimum stopping distance, \( d \), in feet, for an automobile, where:

- \( v \) represents the automobile speed, in feet per second,
- \( s \) represents the drivers’ response time, in seconds, to apply the brakes, and
- \( m \) represents the coefficient of friction between the tires and the road.

\[ d = vs + \frac{v^2}{64m} \]

Enter an equation for which the solution is the speed, in feet per second, of an automobile with a stopping distance of 200 feet, a driver’s response time of 0.5 second, and a coefficient of friction equal to 0.8.

Enter an expression that is equivalent to

\[ (2x^2 + 7x + 4) + (4x^2 + 9x + 8) - (6x - 5) \]

Enter the value of \( x \) that makes the equation true.

\[ \sqrt{x} = 6 \]

A clerk earns $130 per day, plus a commission equal to 15% of her sales, \( s \). The clerk earns less than $250 on Monday.

Enter an expression that is equivalent to \( (2x^2 + 7x + 4) + (4x^2 + 9x + 8) - (6x - 5) \)

Enter the value of \( p \) that makes the given equation true.

\[ \frac{1}{p - 4} = \frac{5}{p} \]
**DAY 1**

Enter the value for $p$ that makes the given equation true.

$$58 = p - 3$$

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<tr>
<th>Name:</th>
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<th>Period:</th>
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</table>

Solve the inequality for $m$.

$$60 \geq -12m$$

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<tr>
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<th>Period:</th>
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</thead>
</table>

Solve the following equation for $t$.

$$t^2 = 64$$

Enter one solution in the first box. If there are two solutions, enter the second solution in the second box.

Enter the value for $x$ that makes the given equation true.

$$1 + 3(2x + 5) = x - 9$$

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Solve the inequality for $z$.

$$-2z + 19 < 15$$

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**DAY 2**

Consider a sequence whose first five terms are 8, 16, 32, 64, 128.

Select the function, with domain $n = \{1, 2, 3, 4, 5\}$, that defines this sequence.

- A. $f(n) = 8n$
- B. $f(n) = 8(2)^{n-1}$
- C. $f(n) = 8n^2$
- D. $f(n) = 8(n - 1)$

A sales clerk’s daily earnings include $130 per day plus commission equal to $x$ percent of his daily sales.

Select the function, with domain $n = \{1, 2, 3, 4, 5\}$, that defines this sequence.

- A. $f(n) = 8n$
- B. $f(n) = 8(2)^{n-1}$
- C. $f(n) = 8n^2$
- D. $f(n) = 8(n - 1)$

For the given equation, enter the value of $P$ when $J = 24$ and $M = 8$.

$$P = \frac{J}{M}$$

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Write the function $y - 5 = \frac{1}{3}(x - 6)$ in the equivalent form most appropriate for identifying the slope and $y$-intercept of the function.

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Solve the following equation for $p$.

$$32p^2 + 50 = 0$$

Enter one solution in the first box. If there are two solutions, enter the second solution in the second box.

**DAY 3**

For the given equation, enter the value of $B$ when $x = 15$.

$$Bx = 30$$

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Solve the given equation for $d$ in terms of $v$ and $t$.

$$v = \frac{1}{3}dt^2$$

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Choose the ordered pair that is a solution to the equation represented by the graph.

- a) (6,0)
- b) (0,6)
- c) (−6,0)
- d) (0,−6)

Enter a number in each box to create an equation that has no real solution.

$$2(3x + 4) - x = \_ x + \_$$

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Enter the value of $x$ that makes the equation $−3(x + 7) + 2x = −26$ true.
### DAY 4

**Enter the value(s) of** \( m \) **that make the equation true.**

\[
m - 1 = \sqrt{5m - 11}
\]

Enter one solution in the first response box. If there are two solutions, enter the second solution in the second response box.

**Solve the given equation for** \( l \) **in terms of** \( P \) **and** \( w \).**

\[
P = 2l + 2w
\]

**Solve the following equation for** \( p \).**

\[
2p^2 - 20p = -50
\]

**For the given equation, enter the value of** \( C \) **when** \( F = 86 \).

\[
F = \frac{9}{5}C + 32
\]

What are the solutions for the given equation?

\[
x^2 + 6x + 17 = 0
\]

A. \( x = -3 \pm 2i \)
B. \( x = -3 \pm 2\sqrt{2} \)
C. \( x = -3 \pm 2i\sqrt{2} \)
D. \( x = -3 \pm 4\sqrt{2} \)

### DAY 5

**For the given equation, enter the value of** \( B \) **when** \( x = -\frac{1}{3} \).

\[
B = \frac{30}{x}
\]

**Multiply and combine like terms to determine the product of these polynomials.**

\[
(3x - 5)(4x + 7)
\]

Enter your result in the response box.

**Solve the following equation for** \( x \).

\[
x^2 - 10x + 50 = 5x
\]

Enter one solution in the first box. If there are two solutions, enter the second solution in the second box.

**Which inequality represents all possible solutions of** \(-3t < 15\)?

A. \( t < -45 \)
B. \( t < -5 \)
C. \( t > -45 \)
D. \( t > -5 \)

**Enter the value of** \( n \) **that makes the equation** \( 5^6 \cdot 5^n = 5^9 \) **true.**