1. Rewrite $|3-\pi|$ without absolute value bars.

A) $3-\pi$
B) $\pi-3$
C) $3+\pi$
D) None of these.

2. Find the equation of the line though (-1,5) that is perpendicular to $2x+3y=8$.

A) $2x+3y=-7$
B) $3x-2y=-13$
C) $3x+2y=-13$
D) $2x+3y=13$
E) None of these.

3. Rationalize the denominator: $\frac{4}{\sqrt{7}-\sqrt{3}}$

A) $\frac{2(\sqrt{7}+\sqrt{3})}{5}$
B) $\sqrt{7}-\sqrt{3}$
C) $\sqrt{7}+\sqrt{3}$
D) 10
E) None of these
4. Simplify: \( \frac{b^3 - 8}{b^2 - 4} \)

A) \( b - 2 \)

B) \( \frac{b^2 - 2b + 4}{b + 2} \)

C) \( \frac{b^2 + 2b + 4}{b + 2} \)

D) \( b + 2 \)

E) None of these.

5. Given the functions below, find the value of \((p - q)(3)\):

<table>
<thead>
<tr>
<th>( x )</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>( p(x) )</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>( q(x) )</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

A) 1

B) 2

C) 3

D) 4

E) None of these.

6. Which of the following statements is FALSE about \( f(x) = 3^x \)?

A) There is no x-intercept

B) There is no y-intercept

C) This function is always increasing

D) The negative x-axis is a horizontal asymptote

E) The function is neither even nor odd
7. How should the graph of \( y = e^x \) be transformed to obtain the graph of \( g(x) = -2e^x \)?

A) Reflect across the x-axis and stretch vertically by a factor of 2.
B) Reflect across the y-axis and stretch vertically by a factor of 2.
C) Reflect across the x-axis and stretch horizontally by a factor of 2.
D) Reflect across the y-axis and stretch horizontally by a factor of 2.
E) None of these.

8. Given \( h(x) = x^3 \), evaluate \( h^{-1}(8) \).

A) 2  
B) 64  
C) 256  
D) 512  
E) None of these.

9. Find the value of \( \tan^{-1}(-2.5) \), rounded to three decimal places.

A) -68.199  
B) -1.190  
C) -0.747  
D) 0  
E) 0.044

10. Find the solution of \( \log_2 \log_3 x = 2 \).

A) 27  
B) 32  
C) 64  
D) 81  
E) None of these.
11. To the nearest tenth, find the time required to triple an investment that pays 7% interest, compounded continuously.

A) 15.1 years  
B) 15.7 years  
C) 16.2 years  
D) 17.2 years  
E) None of these.

12. A television antenna sits on level ground. Two 72-foot guy wires are positioned on opposite sides of the antenna. The angle of elevation each wire makes with the ground is 26 degrees. To the nearest tenth, how far apart are the ends of the two guy wires?

A) 21.5 feet  
B) 24.9 feet  
C) 112.1 feet  
D) 129.4 feet  
E) None of these.

13. Approximate the acute angle \( \theta \) to the nearest tenth of a degree that is a solution to \( \csc \theta = 5 \).

A) 11.5 degrees  
B) 15.2 degrees  
C) 30.0 degrees  
D) 78.5 degrees  
E) None of these.

14. Given \( f(x) = x^2 + 5x + 3 \), find the different quotient \( \frac{f(x+h) - f(x)}{h} \).

A) \( 2x + 5 \)  
B) \( 2x + h + 5 \)  
C) 5  
D) \( H \)  
E) None of these.
15) Find the range of \( f(x) = \sqrt{x - 1} \).

A) All real numbers
B) \((-\infty, 0]\)
C) \([0, \infty)\)
D) \((-\infty, 1]\)
E) \([1, \infty)\)

16) Classify the following system of equations:
\[
\begin{align*}
0.2x - 0.5y &= -1 \\
2.5y &= x + 5
\end{align*}
\]

A) Consistent
B) Inconsistent
C) Dependent
D) More than one of these.

17) How many solutions does the following system have:
\[
\begin{align*}
x - y &= -1 \\
x^2 + y^2 &= 25
\end{align*}
\]

A) 1
B) 2
C) 3
D) 4
E) No solutions

18) Which of the following is the y-coordinate of a solution to this system:
\[
\begin{align*}
y &= 3x + 6 \\
y &= x^2 + 2
\end{align*}
\]

A) 0
B) 4
C) 12
D) 18
E) None of these
19) A man and his daughter manufacture unfinished tables and chairs. Each chair requires 3 hours of sawing and 1 hour of assembly. Each table requires 1 hour of sawing and 2 hours of assembly. There can be up to 50 hours of sawing and 40 hours of assembly available each week. They earn a profit of $10 for each table and $7 for each chair. Find the number of chairs that maximizes their profit.

A) 7  
B) 12  
C) 14  
D) 224  
E) None of these

20) This class was:

A) Awesome  
B) Amazing  
C) Superb  
D) Excellent  
E) All of the above.