1. Chapter 1, Section 1.1, Question 007

Find the equation of the line that passes through the points \((-2, 0)\) and \((7, 18)\).

\[ y = 2x + 4 \]

2. *Chapter 1, Section 1.1, Question 008

Determine the slope and the \(y\)-intercept of the line whose equation is given.

\[ 2y + 11x - 20 = 0 \]

Enter the exact answers.

Slope: \(-\frac{11}{2}\)

\(y\)-intercept: \(10\)

3. Chapter 1, Section 1.2, Question 015a

A town has a population of \(1985\) people at time \(t = 0\). The population increases by \(69\) people a year. Enter a formula for the population, \(P\), of the town as a function of year \(t\).

\[ P = 1985 + 69t \]

4. Chapter 1, Section 1.2, Question 015b
A town has a population of 1654 people at time $t = 0$. The population increases by 4% per year. Enter a formula for the population, $P$, of the town as a function of year $t$.

$$P = 1654 \times 1.04^t$$

5. *Chapter 1, Section 1.3, Question 002d*

For the function $f$ shown below, graph $f(x + 2) + 2$.

6. *Chapter 1, Section 1.3, Question 007*

Use the graph of $m(t)$ shown below to graph $w(t) = m(t - 1) - 1$. 

7. Chapter 1, Section 1.3, Question 009

For the given functions
\[ f(x) = x^3 \]  \[ g(x) = x + 1, \]

find the following.

(a) \[ f(g(1)) = \]

(b) \[ g(f(1)) = \]

(c) \[ f(g(x)) = \]

(d) \[ g(f(x)) = \]

(e) \[ f(t)g(t) = \]

8. Chapter 1, Section 1.3, Question 014c
For \( g(x) = x^2 + 3x + 4 \), find and simplify \( g(2 + h) - g(2) \).

\[
g(2 + h) - g(2) = h^2 + 7h
\]

9. Chapter 1, Section 1.3, Question 038

Find a possible formula for the graph using shifts of \( x^3 \).

\[
y = -2 + (x-3)^3
\]

10. Chapter 1, Section 1.3, Question 049

Determine a function \( f \) such that \( h(x) = f(g(x)) \), where

\[
g(x) = x + 9, \text{ and } h(x) = (x + 9)^3.
\]

\[
f(x) = x^3
\]

11. Chapter 1, Section 1.3, Question 071a

The cost of producing \( q \) articles is given by the function

\[
C = f(q) = 120 + 8q
\]

Find a formula for the inverse function.

\[
f^{-1}(C) = \frac{1}{8}C - 15
\]
12. *Chapter 1, Review Exercises, Question 048b

Use the figure below to give an approximate value for the limit $\lim_{x \to 0} f(x)$ (if it exists).

If the limit does not exist, enter NA.

$\lim_{x \to 0} f(x) = \boxed{6}$

13. *Chapter 1, Review Exercises, Question 048c

Use the figure below to give an approximate value for the limit $\lim_{x \to 0} f(x)$ (if it exists).
If the limit does not exist, enter NA.

\[ \lim_{x \to 0} f(x) = \text{NA} \]

14. Chapter 1, Section 1.7, Additional Question 004

Suppose \( f(x) \) is a continuous function for all \( x \). What is \( \lim_{x \to 0} f(x) \)? If the limit does not exist, choose NA.

\[ \lim_{x \to 0} f(x) = f(0) \]

15. *Chapter 1, Section 1.7, Question 031

Find \( k \) so that the following function is continuous on any interval.

\[ f(x) = \begin{cases} 
    kx, & x \leq 3 \\
    2, & 3 < x 
\end{cases} \]

Enter the exact answer.

\[ k = \frac{2}{3} \]