HW 1.4, 1.5 (20276610)

Due: Sun, Jun 19, 2022 11:59 PM PDT

Question 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27

1. Question Details SCalcET9 1.XP.4.006. [4553121]

Find the domain of each function. (Enter your answers using interval notation.)

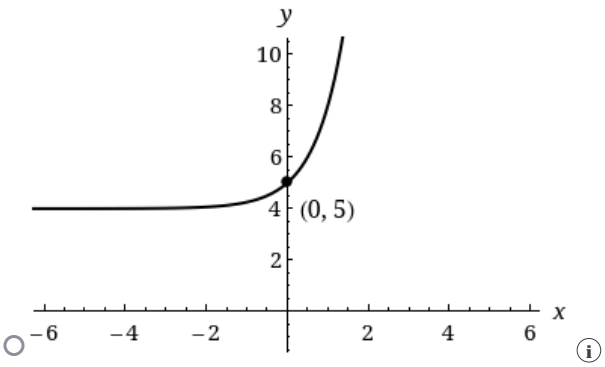
(a) $f(x) = \dfrac{9}{2 + e^x}$

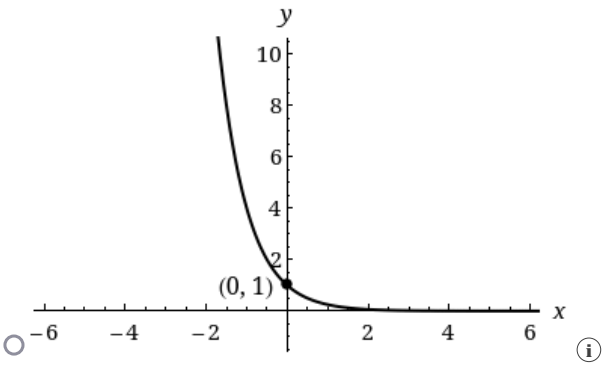
(b) $f(x) = \dfrac{1}{1 - e^x}$

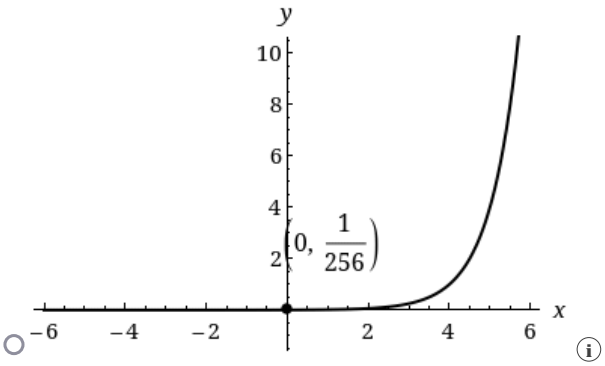
2. Question Details SCalcET9 1.JIT.4.001. [4563909]

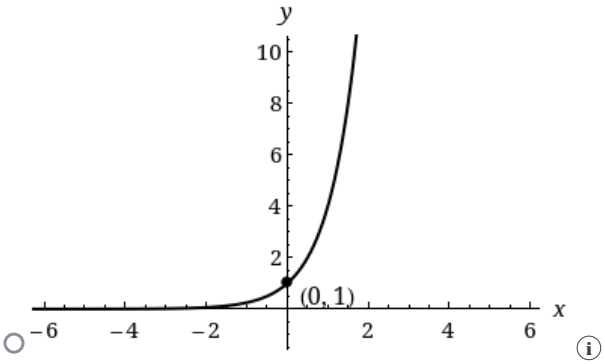
Match the function with its graph.

$f(x) = 4^x$



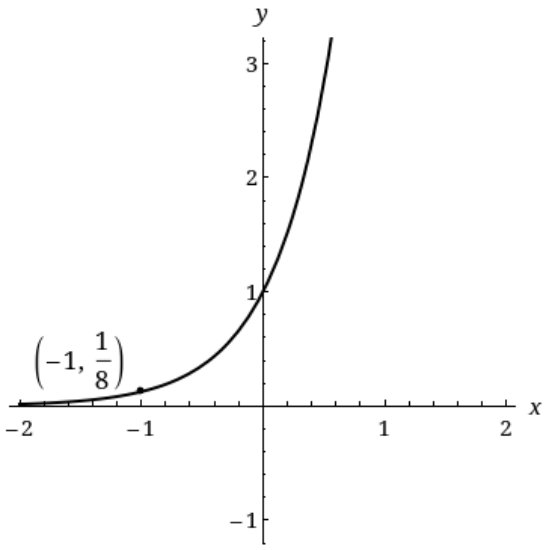






3. Question Details SCalcET9 1.JIT.4.002.MI. [4563967]

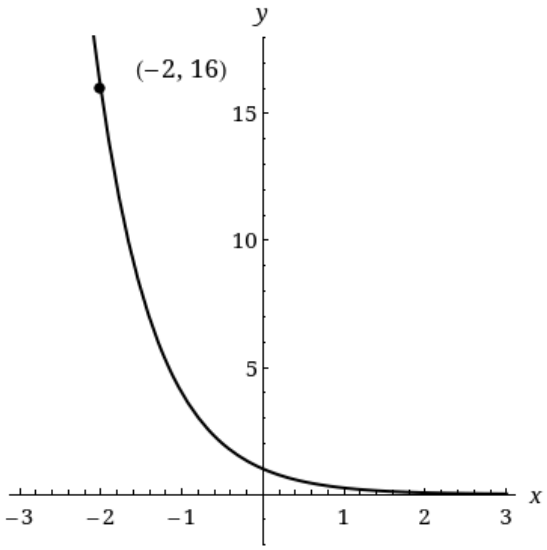
Find the exponential function $f(x) = a^x$ whose graph is given.



$f(x)$ =

4. Question Details SCalcET9 1.JIT.4.003.MI. [4563891]

Find the exponential function $f(x) = a^x$ whose graph is given.

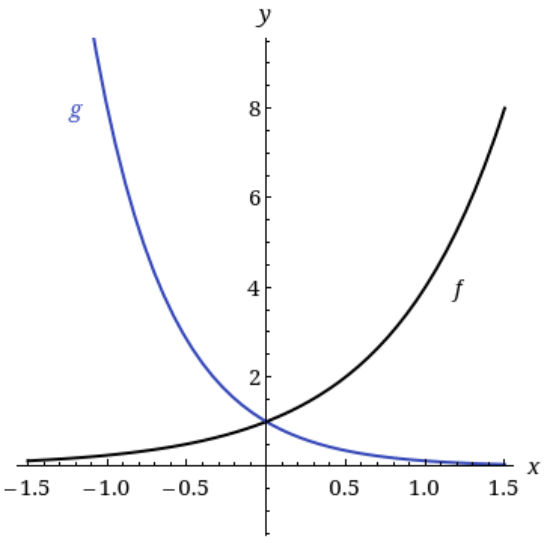


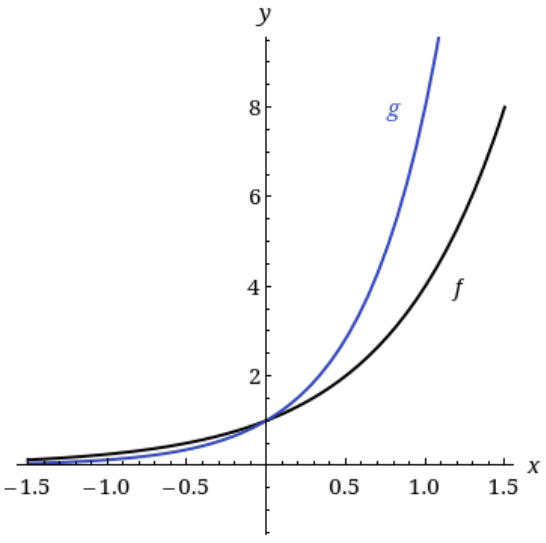
$f(x)$ =

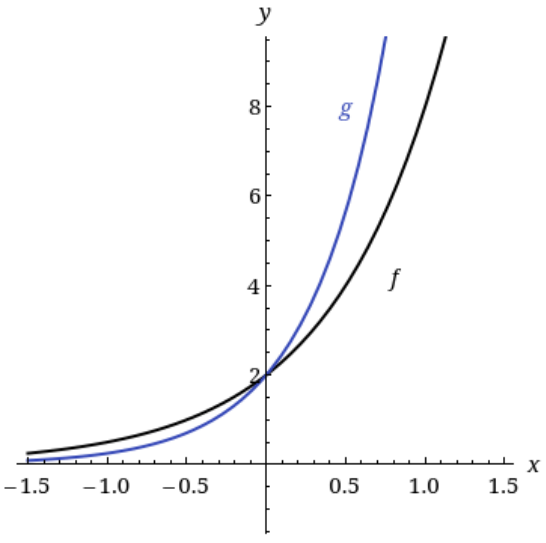
5. Question Details SCalcET9 1.JIT.4.005. [4563750]

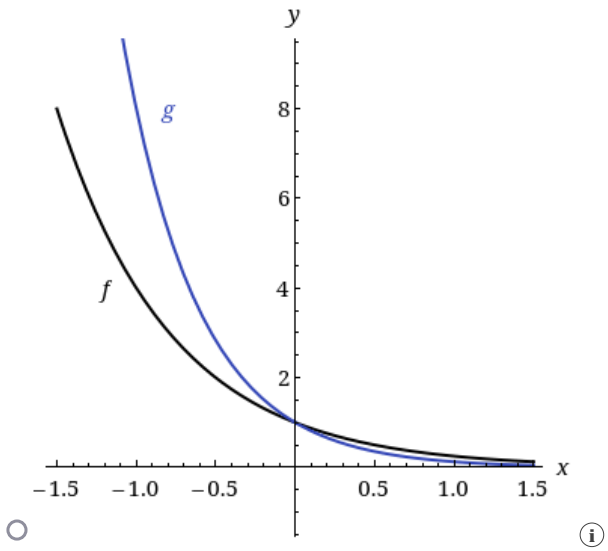
Graph both functions on one set of axes.

$f(x) = 4^x$ and $g(x) = 8^x$









6. Question Details SCalcET9 1.JIT.4.006.MI. [4553266]

Find the slope of the line through P and Q.

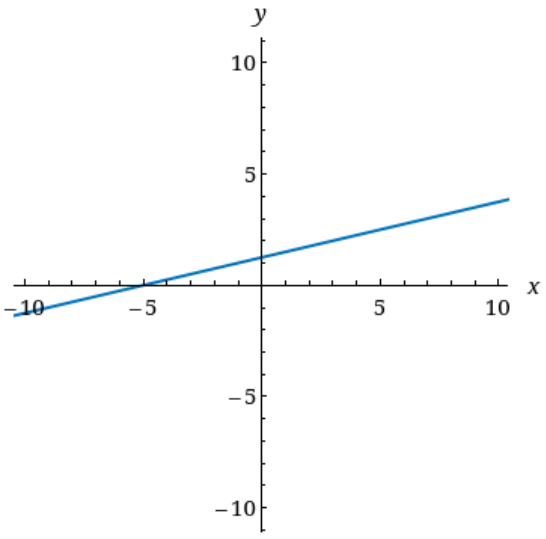
$P(0, 0)$, $Q(8, 4)$

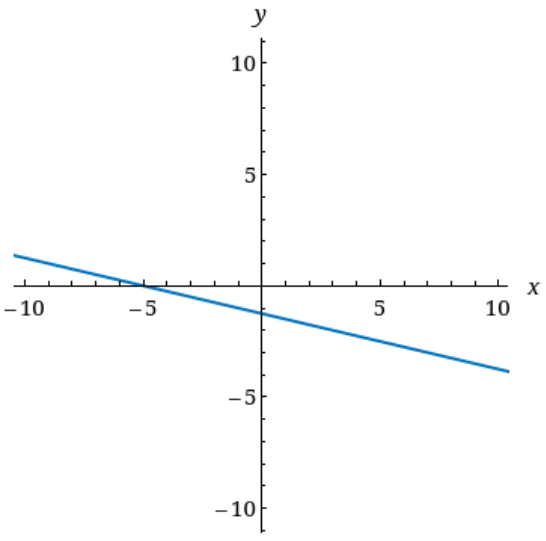
7. Question Details SCalcET9 1.JIT.4.008.MI. [4700944]

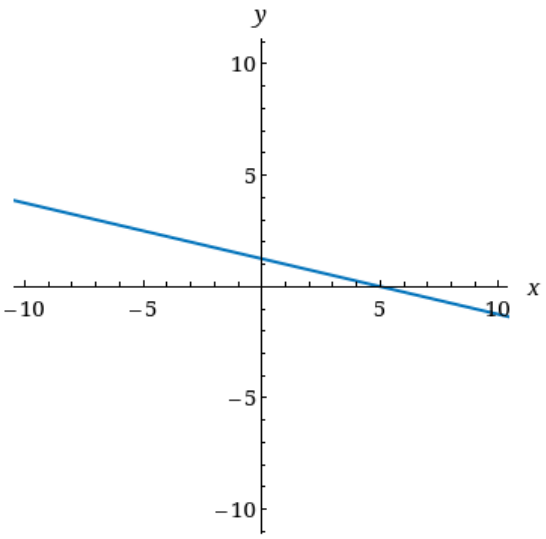
Find an equation of the line passing through the given points.

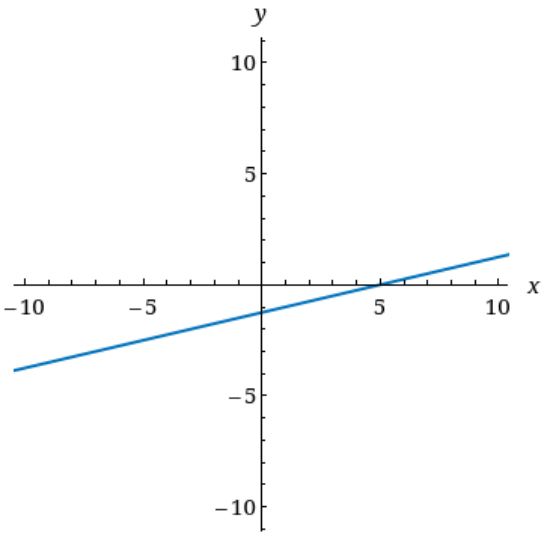
$(1, 1), \left(8, -\frac{3}{4}\right)$

Sketch the line.









8. Question Details SCalcET9 1.JIT.4.008.MI.SA. [4763460]

This question has several parts that must be completed sequentially. If you skip a part of the question, you will not receive any points for the skipped part, and you will not be able to come back to the skipped part.

Tutorial Exercise

Find an equation of the line passing through the given points and sketch the line.

$(1, 1), \left(6, -\frac{2}{3}\right)$

9. Question Details SCalcET9 1.5.001. [4703229]

(a) What is a one-to-one function?

- A function *f* is called a one-to-one function if it is a horizontal line.
- A function *f* is called a one-to-one function if it is a vertical line.
- A function *f* is called a one-to-one function if it has negative slope.
- A function *f* is called a one-to-one function if it periodically takes on the same value.
- A function *f* is called a one-to-one function if it never takes on the same value twice.

(b) How can you tell from the graph of a function whether it is one-to-one?

- It must always increase in value.
- It must pass the Vertical Line Test.
- You cannot tell by looking at the graph.
- It must always decrease in value.
- It must pass the Horizontal Line Test.

10. Question Details SCalcET9 1.5.003. [4703220]

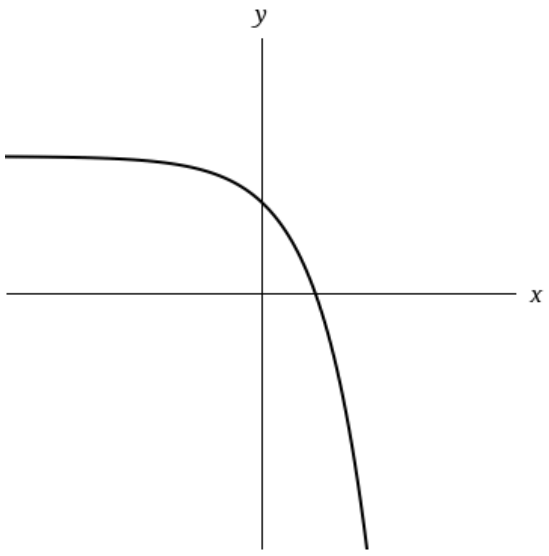
A function is given by a table of values. Determine whether the function is one-to-one.

x	1	2	3	4	5	6
***f*(*x*)**	16	16.4	17.7	19.1	17	16.4

- Yes, it is one-to-one.
- No, it is not one-to-one.

11. Question Details SCalcET9 1.5.006. [4703230]

A function is given by a graph. Determine whether the function is one-to-one.



- Yes, it is one-to-one.
- No, it is not one-to-one.

12. Question Details SCalcET9 1.5.015. [4703196]

A function is given by a verbal description. Determine whether the function is one-to-one.

The function $f(t)$ is the height of a football t seconds after kickoff.

- ○ Yes, it is one-to-one.
- ○ No, it is not one-to-one.

13. Question Details SCalcET9 1.5.017. [4563907]

Assume that f is a one-to-one function.

(a) If $f(6) = 16$, find $f^{-1}(16)$.

(b) If $f^{-1}(3) = 9$, find $f(9)$.

14. Question Details SCalcET9 1.5.023. [4703120]

Find a formula for the inverse of the function.

$$f(x) = 6 - x^2,\ x \geq 0$$

$f^{-1}(x) =$

15. Question Details SCalcET9 1.XP.5.010. [4701552]

Find a formula for the inverse of the function.

$$f(x) = e^{4x - 5}$$

$f^{-1}(x) =$

16. Question Details SCalcET9 1.5.039. [4703168]

Find the exact value of each expression.

(a) $\log_2(32)$

(b) $\log_2\left(\frac{1}{32}\right)$

(c) $\log_{16}(2)$

17. Question Details SCalcET9 1.XP.5.019. [4563785]

Rewrite the expression as a single logarithm.

$$\frac{1}{5}\ln(x+2)^5 + \frac{1}{2}\left[\ln(x) - \ln(x^2+3x+2)^2\right]$$

18. Question Details SCalcET9 1.XP.5.022. [4703276]

Solve each equation for x. (For each answer, enter an exact number.)

(a) $e^{2-4x} = 5$

$x =$

(b) $\ln(3x - 18) = 9$

$x =$

19. Question Details SCalcET9 1.5.069. [4703201]

Find the exact value of each expression. (Enter your answers in radians.)

(a) $\cos^{-1}(1)$

(b) $\sin^{-1}(-0.5)$

20. Question Details SCalcET9 1.5.076. [4563966]

Simplify the expression.

$$\tan(\sin^{-1}(x))$$

21. Question Details SCalcET9 1.5.077. [4563851]

Simplify the expression.

$$\sin(\tan^{-1}(x))$$

22. Question Details SCalcET9 1.XP.5.017. [4703145]

Express the given quantity as a single logarithm.

$$\ln(a + b) + \ln(a - b) - 5\ln(c)$$

23. Question Details SCalcET9 1.5.072.MI.SA. [4763409]

This question has several parts that must be completed sequentially. If you skip a part of the question, you will not receive any points for the skipped part, and you will not be able to come back to the skipped part.

Tutorial Exercise

Find the exact value of the expression.

(a) $\sin^{-1}\left(-\frac{\sqrt{2}}{2}\right)$

(b) $\cos^{-1}\left(-\frac{1}{2}\right)$

24. Question Details SCalcET9 1.5.072.MI. [4703158]

Find the exact value of each expression. (Enter your answer in radians.)

(a) $\sin^{-1}\left(-\frac{\sqrt{3}}{2}\right)$

(b) $\cos^{-1}\left(\frac{1}{2}\right)$

25. Question Details SCalcET9 1.JIT.5.004.MI. [4563845]

Use the Inverse Function Property to determine whether f and g are inverses of each other.

$$f(x) = 7 - 9x; \quad g(x) = \frac{7 - x}{9}$$

- ○ f and g are inverses of each other.
- ○ f and g are not inverses of each other.

26. Question Details SCalcET9 1.TF.001. [4563846]

Determine whether the statement is true or false.

If f is a function, then $f(s + t) = f(s) + f(t)$.

- ○ True
- ○ False

27. Question Details SCalcET9 1.TF.002. [4563862]

Determine whether the statement is true or false.

If $f(s) = f(t)$, then $s = t$.

- ○ True
- ○ False

Assignment Details

Name (AID): **HW 1.4, 1.5 (20276610)**
Submissions Allowed: **10**
Category: **Homework**
Code:
Locked: **Yes**
Author: **Mirzaagha, Abe (** MirzaaM@arc.losrios.edu **)**
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