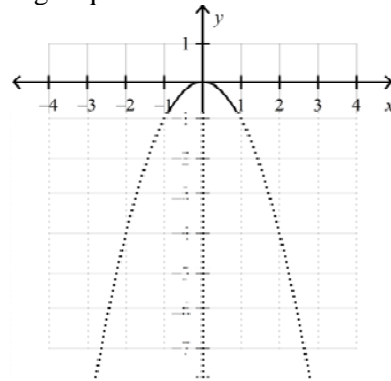


Transformations of Linear Functions Quiz

Multiple Choice

Identify the choice that best completes the statement or answers the question.

- If $f(x) = -3x + 4$, what is $f(5)$?
 - 19
 - 11
 - 7
 - 19
- Assume $f(x) = \frac{1}{2}x - 3$. Now dilate $f(x)$ by a scale factor of 6. Write the rule for $g(x)$ after the transformation.
 - $g(x) = 6x - 3$
 - $g(x) = 3x - 3$
 - $g(x) = 3x - 18$
 - $g(x) = \frac{1}{12}x - \frac{1}{2}$
- Assume that $f(x) = 3x + 6$. What happens to the **y-intercept** after a reflection across the x-axis?
 - shifts down 6 units
 - shifts up 6 units
 - shifts down 12 units
 - reflecting the x-axis does not change the y-intercept
- If $f(x) = 2x - 8$ is translated right 4 units, what will be the resulting equation of $g(x)$?
 - $g(x) = 2x - 16$
 - $g(x) = 2x$
 - $g(x) = 2x - 12$
 - $g(x) = 2x - 4$
- If $f(x) = x^3 - 4$, find the average rate of change for the given interval: $1 \leq x \leq 3$.
 - 3
 - 9
 - 13
 - 26

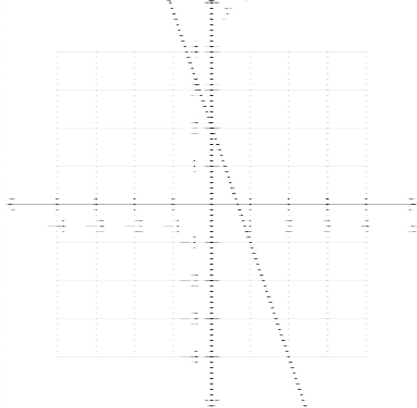
- Over which of the following intervals is the average rate of change equal to zero?
 

- $-2 \leq x \leq 0$
 - $-2 \leq x \leq 1$
 - $-1 \leq x \leq 1$
 - $0 \leq x \leq 2$
- Find the average rate of change for the interval: $-3 \leq x \leq 5$

x	-5	-3	0	5	7
y	8	5	-3	4	9

- 8
- $-\frac{1}{8}$
- $-\frac{1}{2}$
- $-\frac{3}{2}$

8. Write the equation for $g(x)$ if the $f(x)$ graphed below is reflected across the y-axis.



- a. $g(x) = 3x - 2$
 b. $g(x) = -3x + 2$
 c. $g(x) = -3x - 2$
 d. $g(x) = 3x + 2$
9. Which of the following tables best represents the function: $f(x) = -3 \cdot 2^x$.

a.

x	y
-1	-1.5
0	-3
1	-6
2	-12

b.

x	y
-1	-0.2
0	1
1	-6
2	36

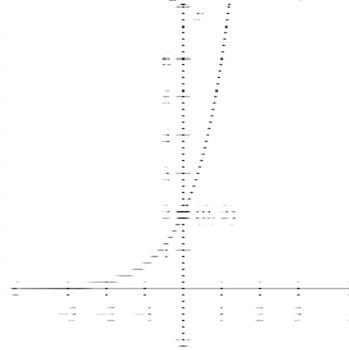
c.

x	y
-1	-0.7
0	-2
1	-6
2	-18

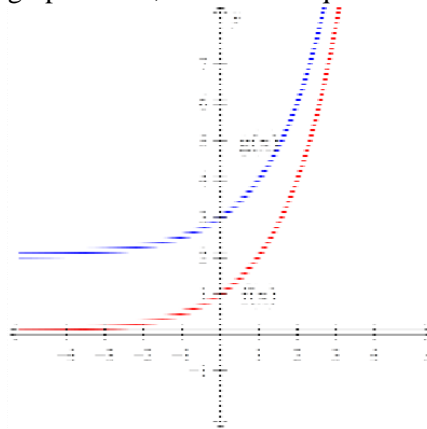
d.

x	y
-1	6
0	0
1	-6
2	-12

10. What is the equation for $f(x)$ graphed below?



- a. $f(x) = -2 \cdot 3^x$
 b. $f(x) = 2 \cdot \left(\frac{1}{3}\right)^x$
 c. $f(x) = 3 \cdot 2^x$
 d. $f(x) = 2 \cdot 3^x$
11. If $f(x)$ is translated up to form $g(x)$ as shown in the graph below, what is the equation for $g(x)$?



- a. $g(x) = 2^x + 3$
 b. $g(x) = 2^x + 2$
 c. $g(x) = 2^x + 1$
 d. $g(x) = 2^x$
12. Which of the following situations would be best represented by an exponential function?
- a. "850 Baby!!!" gets an estimated 750 views a day on YouTube
 b. The population a town has doubled every 10 years since 1800
 c. Bill starts with \$200 in his bank account and adds \$20 every week
 d. Susie wants to evenly divide 100 M&Ms amongst her 5 friends

Transformations of Linear Functions Quiz Answer Section

MULTIPLE CHOICE

1. ANS: B PTS: 1
2. ANS: C PTS: 1
3. ANS: C PTS: 1
4. ANS: A PTS: 1
5. ANS: C PTS: 1
6. ANS: C PTS: 1
7. ANS: B PTS: 1
8. ANS: D PTS: 1
9. ANS: A PTS: 1
10. ANS: D PTS: 1
11. ANS: B PTS: 1
12. ANS: B PTS: 1