Function Transformations: Translations, Stretches, and Reflections — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **The graph of y = 3f(x) is the graph of f**

- A stretched vertically by a factor of 3
- B shifted left
- C reflected in the x axis
- D shifted up

Understand It with Pulse | Flag a mistake

2 **The graph of y = 4f(x) is the graph of f**

A shifted left

B stretched vertically by a factor of 4

C reflected in the x axis

D shifted up

Understand It with Pulse | Flag a mistake

3 **The graph of y = 5f(x) is the graph of f**

A shifted left

B reflected in the x axis

C stretched vertically by a factor of 5

D shifted up

Understand It with Pulse | Flag a mistake

4 **The graph of $y = (x - 3)^2$ has its vertex at x =**

ANSWER _____

Understand It with Pulse | Flag a mistake

5 **For f(x) = (x - 2)² plus 1 , the vertex has y coordinate**

ANSWER _____

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6 **For f(x) = (x - 1)² plus -2 , the vertex has y coordinate**

ANSWER _____

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7 **For f(x) = (x - 4)² plus 1 , the vertex has y coordinate**

ANSWER _____

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8 **Shifting the parabola $y = x^2$ three units to the right moves its vertex to $x =$**

ANSWER

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9 **The graph of $y = x^2$ is translated 2 units horizontally and 3 units vertically . The vertex of the translated graph has x coordinate**

ANSWER

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10 **The graph of $y = x^2$ is translated -1 units horizontally and 4 units vertically . The vertex of the translated graph has x coordinate**

ANSWER

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11 **The graph of $y = x^2$ is translated 3 units horizontally and -2 units vertically . The vertex of the translated graph has x coordinate**

ANSWER

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12 **The vertex of the parabola $y = (x + 4)^2 + 1$ has x coordinate**

ANSWER _____

Understand It with Pulse | Flag a mistake

13 **A parabola with vertex at (2, 5) is shifted 3 units left. Its new vertex has x coordinate**

ANSWER _____

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14 **The graph of $y = x^2 - 6x + 5$ has its vertex at x =**

ANSWER _____

Understand It with Pulse | Flag a mistake

15 **If f(x) = x + 2 and g(x) = 3x , then g(f(1)) is**

ANSWER _____

Understand It with Pulse | Flag a mistake

16 **The composition f(g(2)) where f(x) = x² and g(x) = x + 1 is**

ANSWER _____

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17 **For g(x) equals 2 times f(x) plus 3, where f(2) equals 4, the value of g(2) is**

ANSWER _____

Understand It with Pulse | Flag a mistake

18 **For g(x) equals 3 times f(x) plus 1, where f(2) equals 4, the value of g(2) is**

ANSWER _____

Understand It with Pulse | Flag a mistake

19 **For g(x) equals 4 times f(x) plus 2, where f(2) equals 4, the value of g(2) is**

ANSWER _____

Understand It with Pulse | Flag a mistake

20 **Given f(x) = 2x and g(x) = x - 1 , the value of f(g(4)) is**

ANSWER

Understand It with Pulse | Flag a mistake

21 **A function machine first adds 5 and then doubles. Starting with 3, the output is**

ANSWER

Understand It with Pulse | Flag a mistake

22 **If f(x) = x - 3 , then f(f(5)) is**

ANSWER

Understand It with Pulse | Flag a mistake

23 **Multiplying a function by 3 stretches its graph vertically by a factor of**

ANSWER

Understand It with Pulse | Flag a mistake

24 **The graph of y = f(x - 2) is the graph of y = f(x) shifted**

A 2 units to the right

B 2 units to the left

C 2 units up

D 2 units down

Understand It with Pulse | Flag a mistake

25 **The parabola y = x² + 2x + 5 has its lowest point at y =**

ANSWER _____

Understand It with Pulse | Flag a mistake

ANSWER KEY

1.	A	**10.**	-1	**19.**	18
2.	B	**11.**	3	**20.**	6
3.	C	**12.**	-4	**21.**	16
4.	3	**13.**	-1	**22.**	-1
5.	1	**14.**	3	**23.**	3
6.	-2	**15.**	9	**24.**	A
7.	1	**16.**	9	**25.**	4
8.	3	**17.**	11		
9.	2	**18.**	13		

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