

CYU 1.2 Transformations

Use when you get it right all by yourself
S *Use when you did it all by yourself, but made a silly mistake*
H *Use when you could do it alone with a little help from teacher or peer*
G *Use when you completed the problem in a group*
X *Use when a question was attempted but wrong (get help)*
N *Use when a question was not even attempted*

CONCEPTS	BASIC	INTERMEDIATE	ADVANCED
Translations: left, right, up, down	5, 6, 7, 8, 9, 11 - 14	1, 3,	16, 17, 19, 20
Reflections: R_x , R_y	6, 8, 10, 12	4	18, 20
Vertical Stretch (VS)/ Vertical Compression (VC)	5, 9, 10, 13, 14	2,	15, 18
Horizontal Stretch (HS)/ Horizontal Compression (HC)	11		19

1. Transform the linear parent function ($f(x) = x$) down 3 units. Write the new rule.
2. Transform the absolute value parent function ($f(x) = |x|$) by a vertical compression of $\frac{1}{4}$. Write the new rule.
3. Transform the quadratic parent function ($f(x) = x^2$) left 5 units. Write the new rule.
4. Reflect the constant function ($y = 2$) over the x-axis. Write the new rule.
5. Describe the transformations from the parent function to this function: $f(x) = 2x + 3$.
6. Describe the transformations from the parent function to this function: $f(x) = 4 - x$.
7. Describe the transformations from the parent function to this function: $f(x) = (x - 6)^2$.
8. Describe the transformations from the parent function to this function: $f(x) = -(x + 8)^2$.
9. Describe the transformations from the parent function to this function: $f(x) = 2x^2 + 6$.

10. Describe the transformations from the parent function to this function: $f(x) = -\frac{1}{3}x^2$.
11. Describe the transformations from the parent function to this function: $f(x) = |2x| - 3$.
12. Describe the transformations from the parent function to this function: $f(x) = -|x - 2|$.
13. Describe the transformations from the parent function to this function: $f(x) = 2|x - 1| - 6$.
14. Describe the transformations from the parent function to this function: $f(x) = \frac{1}{2}|x + 3|$.
15. Use the rule provided to transform the original $f(x)$ function and describe the changes and write the new equation. $f(x) = 3x - 2$; $2f(x)$.
16. Use the rule provided to transform the original $f(x)$ function and describe the changes and write the new equation. $f(x) = 3x - 2$; $f(x) - 7$.
17. Use the rule provided to transform the original $f(x)$ function and describe the changes and write the new equation. $f(x) = 3x - 2$; $f(x + 2)$.
18. Use the rule provided to transform the original $f(x)$ function and describe the changes and write the new equation. $f(x) = 3x - 2$; $f(x) = -3f(x)$.
19. Let the graph of $h(x)$ be a horizontal stretch by a factor of 8 followed by a translation 10 units down of the graph of $f(x) = x$.
20. Let the graph of $g(x)$ be a reflection over the x -axis followed by a translation 5 units left of the graph of $f(x) = |x|$.

CYU Reflection: *How far can you go: basic, intermediate, or advanced?*

Rate your mastery level!

How confident are you with the skills this CYU covered? Circle the score you would give yourself.

