Transformations of functions

Name _____ **Date** _____

Describe the transformation from the parent function.

Problem	Answer	Problem	Answer
1. $y = (x - 3)^2$		6. $y = e^{(-x)}$	
2. $y = x^2 + 4$		7. $y = (x + 1)^3 - 2$	
3. $y = -\lvert x \rvert$		8. $y = 0.5 \ln(x)$	
4. $y = 2\sqrt{x}$		9. $y = \lvert x - 2 \rvert + 1$	
5. $y = \sin(2x)$		10. $y = 3\cos(x)$	

Notes

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Answer key — Transformations of functions

#	Problem	Answer
1	$y = (x - 3)^2$	Right 3
2	$y = x^2 + 4$	Up 4
3	$y = -\|x\|$	Reflect in x-axis
4	$y = 2\sqrt{x}$	Vertical stretch ×2
5	$y = \sin(2x)$	Horizontal compression ÷2 (period π)
6	y = e^(−x)	Reflect in y-axis
7	$y = (x + 1)^3 - 2$	Left 1, down 2
8	$y = 0.5 \ln(x)$	Vertical compression ×0.5
9	$y = \|x - 2\| + 1$	Right 2, up 1
10	$y = 3\cos(x)$	Amplitude 3

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