

**TASK 1.2.4: SUMMARIZE FINDINGS****Solutions****Summarize in a sentence:**

Task 1.2.4 is a summary of all of the findings from exercises 1.2.3 I-VI. The verbal descriptions expected in the “effect” column can be paraphrased from the Task 1.2.3 solutions section.

Equation	Effect
1. $y = f(x + a)$	Horizontal translation
2. $y = f(x) + a$	Vertical translation
3. $y = f(ax)$	Horizontal stretch/compression
4. $y = af(x)$	Vertical stretch/compression
5. $y = f(-x)$	Reflection about the $y$ -axis
6. $y = -f(x)$	Reflection about the $x$ -axis
7. $y =  f(x) $	Where $f(x) \geq 0$ , function remains unchanged. Where $f(x) < 0$ , function is a reflection about the $x$ -axis.
8. $y = f( x )$	Delete portion of original function that is in the 2 <sup>nd</sup> and 3 <sup>rd</sup> quadrants; replace with reflection of function in quadrants 1 and 4 about the $y$ -axis.

**Math Notes**

Summarizing the findings from exercises 1.2.3 I-VI is important because it brings together all of the transformations considered. Participants can use this as a reference and a way to compare and contrast the various affects transformations have on a parent function.

**Teaching Notes**

Have participants work in small groups to create a summary sheet on wall chart paper. Hang the summary sheets around the room for reference. This enables you to help participants see various cases that they may or may not have considered in their summary.

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Summarize in a sentence:

<u>Equation</u>	<u>Effect</u>
1. $y = f(x + a)$	
2. $y = f(x) + a$	
3. $y = f(ax)$	
4. $y = af(x)$	
5. $y = f(-x)$	
6. $y = -f(x)$	
7. $y =  f(x) $	
8. $y = f( x )$	