

Quadratic Transformations solution

Try using the same input number for both functions. What do you notice?

x	f(x)	g(x)
-5	14	16
-4	6	8
-3	0	2
-2	-4	-2
-1	-6	-4
0	-6	-4
1	-4	-2
2	0	2
3	6	8
4	14	16
5	24	26

I noticed that the g(x) formula was always 2 more than f(x) formula, therefore there were no numbers where they both worked.

How are the two functions related?

The equations for both formulae are...

$$F(x) = x^2 + x - 6$$

$$G(x) = x^2 + x - 6 + 2$$

$$= x^2 + x + 4$$

Therefore the relationship between them is...

$$F(x) = g(x) + 2$$

Or

$$G(x) = f(x) - 2$$

How are the graphs related?

The graphs are related as the second equation, g(x) is always 2 more than f(x). Also, the graphs make the same 'U shape' and the sequences are the same apart from the two differences that occur in every plot.

