

What Happened To The Wooden Plane With The Wooden Wheels and Wooden Engine?

Write the letter of each answer in the box containing the exercise number.

Describe the transformation of $f(x) = x^2$ represented by *g*.

- **1.** $g(x) = -2x^2$ **2.** $g(x) = (x 1)^2$
- **3.** $g(x) = x^2 1$ **4.** $g(x) = (x + 1)^2$
- **5.** $g(x) = \frac{1}{2}x^2 2$ **6.** $g(x) = (x 2)^2 1$

Write a rule for *g* described by the transformations of the graph of *f*.

- f(x) = x²; vertical stretch by a factor of 2 and a reflection in the x-axis, followed by a translation 3 units down
- 8. $f(x) = x^2$; vertical shrink by a factor of $\frac{1}{2}$, followed by a translation 3 units left
- 9. $f(x) = 4x^2 + 10$; horizontal stretch by a factor of 2, followed by a translation 3 units up
- **10.** $f(x) = (x 2)^2 8$; horizontal shrink by a factor of $\frac{1}{2}$ and a translation 5 units down, followed by a reflection in the *x*-axis

Answers

- **G.** $g(x) = x^2 + 13$
- **T.** translation 1 unit right
- **0.** $g(x) = -(2x 2)^2 + 13$
- **W.** translation 1 unit down
- **D.** translation 2 units right, followed by a translation 1 unit down
- **O.** vertical shrink by a factor of $\frac{1}{2}$, followed by a translation 2 units down
- I. reflection in the *x*-axis and a vertical stretch by a factor of 2
- **E.** $g(x) = -2x^2 3$
- **N.** $g(x) = \frac{1}{2}(x+3)^2$
- **O.** translation 1 unit left

