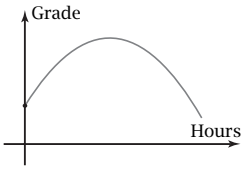
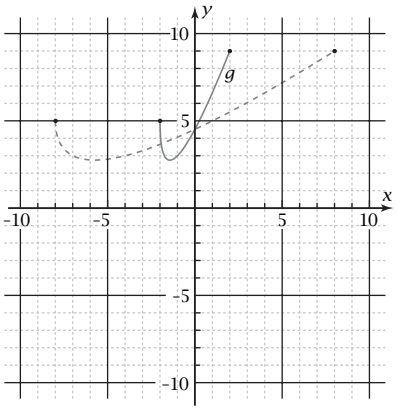
Solutions to Tests

Test 1 Form A

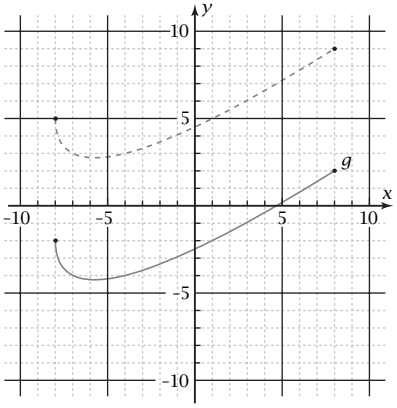
1.



2. Quadratic function
3. Power function (Accept cubic or polynomial.)
4. Exponential function
5. Range: $-4.9 \le y \le 4.1$
6. Rational algebraic function
7. Equation: $g(x) = f(4x)$



8. Vertical translation by −7



9. Enter $y_1 = x^2 - 2x - 3/(x \ge -1$ and $x \le 4)$.
   The graph checks.
10. Horizontal translation by −8
    Equation: $g(x) = f(x + 8)$
    Check? Yes
11. Vertical dilation by a factor of $\frac{1}{4}$
    Equation: $g(x) = \frac{1}{4}f(x)$ (Accept $g(x) = \frac{1}{5}f(x)$.)
    Check? Yes
12. Horizontal dilation by a factor of 2
    Equation: $g(x) = f\left(\frac{1}{2}x\right)$
    Check? Yes
13. Vertical translation by −2
    Equation: $g(x) = f(x) - 2$
    Check? Yes
14. Horizontal translation by 5
    Vertical translation by 1
    Equation: $g(x) = f(x - 5) + 1$
    Check? Yes
15.

16. Adding five carts (6 − 1) increases the length by 57 inches (109 − 52). So each cart adds $\frac{57}{5} = 11.4$ inches.
17. $f(n) = 52 + 11.4(n - 1)$ or $f(n) = 40.6 + 11.4n$
18. Linear function
19. $f(15) = 211.6$ in.
20. $f(n) = 240$
    $40.6 + 11.4n = 240$
    $11.4n = 199.4$
    $n = 17.4912\ldots$
    17 carts (round downward)
21. Answers will vary.

Test 1 Form B

1.