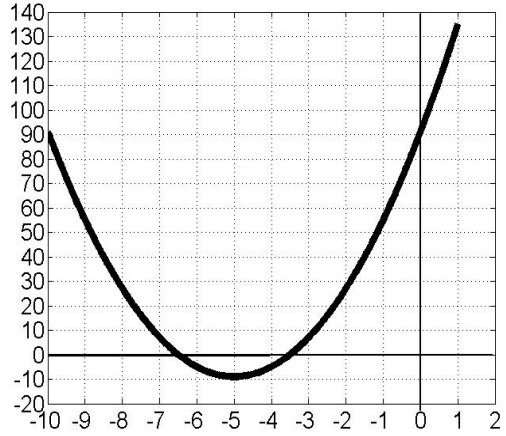
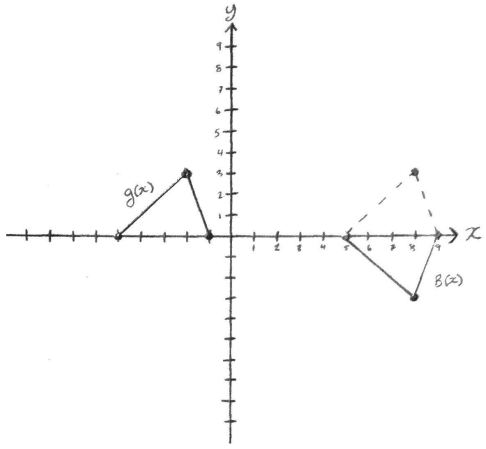
# Practice Test 2 Answers



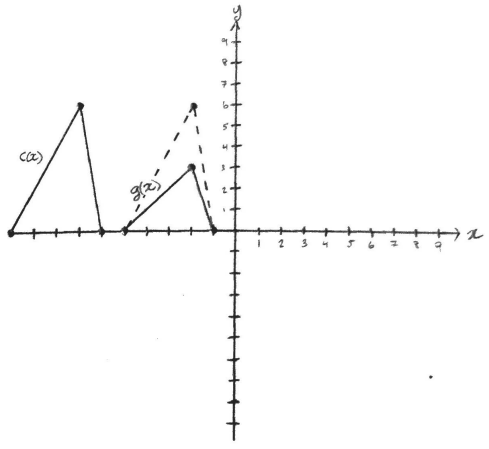
1. (a) $(-5,-9)$. (b) $f(x) = 4(x+5)^2 - 9$. (c) (-5,-9). (d) upward. (e) $D = 144$, means there are 2 $x$-intercepts. (f) Yes. Since the vertex is at $(-5,-9)$ and the parabola opens upward, there must be 2 $x$-intercepts. (g) $\left(-\frac{7}{2}, 0\right)$ and $\left(-\frac{13}{2}, 0\right)$. (h) $(0, 91)$ (i) See figure below. [(for kicks)] $t = -15, -27$.
2. $g(x) = 2(x+3)^2 - 1 = 2x^2 + 12x + 17$
3. $g(x) = -1(x-2)^2 + 1 = -x^2 + 4x - 3$
4. $S(x) = 2x^2 + \frac{320}{x}$
5. (a) $V(r) = 4\pi r^3$. (b) $V(h) = \frac{\pi h^3}{16}$
6. (a) The pellet reaches maximum height at 5 seconds. (b) The pellet's maximum height is 400 feet.
7. (a) The dimensions of the field are 700 feet by 1400 feet. (b) The maximum area that he can fence is 980,000 feet$^2$.
8. (a) $x = -7776$. (b) $x = 7776$. (c) No Solution. (d) $x = 9$. (e) No Solution. (f) $x = \pm\sqrt[4]{5}$. (g) $x = \sqrt[5]{-3} = -\sqrt[5]{3}$. (h) $x = \sqrt[5]{7}$.
9. $x = \pm\sqrt[6]{5}$
10. (a) $p(2x) = -640x^7 + 48x^4 + 56x^3 - 18x - 11$. (b) $p(-x) = 5x^7 + 3x^4 - 7x^3 + 9x - 11$.
11. $h(x) = -4x - 10$
12. (a) The function $A(x)$ can be obtained from the function $g(x)$ by shifting down 7 units and reflecting across the $y$-axis. (b) See figure below. (c) See figure below. (d) $C(x) = 2g(x+5)$




1(i)




12(b)




12(c)