

- **1.** a) k = 8 (b) k = 4 (c) k = 2
- **2.** a) a = -3, b = 2 (b) a = 2, b = -16 (c) a = -4, b = -9

3.	a) $x = 2$, $(2, -6)$ Min	(b) $x = -3$, $(-3, -1)$ Min
	c) $x = -5$, $(-5, 4)$ Min	(d) $x = 3$, (3, 2) Max

- **4.** a) Sketch of a Parabola with Min TP @ (2, -1) Roots at x = 1 & 3 y-intercept @ (0, 3)
 - **b**) Sketch of a Parabola with Min TP @ (0, -16) Roots at x = -4 & 4 y-intercept @ (0, -16)
 - c) Sketch of a Parabola with Min TP @ (-2, -35) Roots at x = -7 & 3 y-intercept @ (0, -21)
- **5.** a) x = -4, x = 3 (b) x = -1, x = 7 (c) x = -2, x = 2.5
- **6.** a) b² 4ac = -47 so no real roots exist **b**) b² 4ac = 49 so 2 real and distinct roots exist
 - c) $b^2 4ac = 0$ so 2 real and equal roots exist

7. a)
$$x = 0.70$$
, $x = 4.30$ (b) $x = -1.23$, $x = 1.90$ (c) $x = -1.00$, $x = 2.50$