

AP CALCULUS PROBLEM SET 1 ANSWER KEY

1. a) $x = 2, 2, -\frac{5}{2}$

b) $y = \frac{1}{12}x + 20$

c) $(-1, 27), (2, 0)$

2. a) $x = 100$

b) $y = \frac{3}{5}x + 20$

c) The spotlight hits the tree at 170 feet

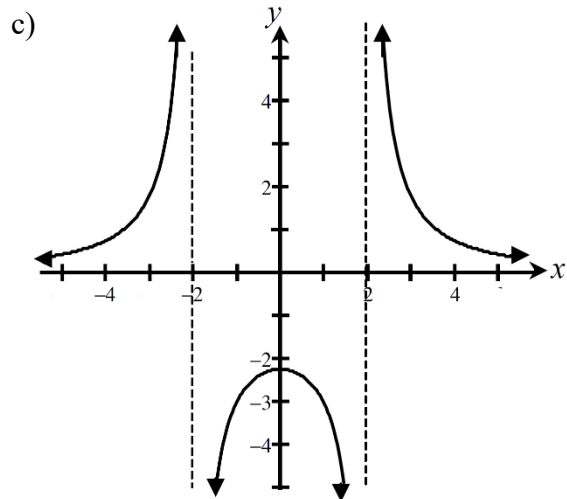
3. a) $c = 1$

b) Cubic: $y = 12x - 16$

Parabola: $y = 12x + 1$

4. a) $a = 0, b = 9, c = 4$

b) $x = 2, x = -2, y = 0$



5. a) $f(x)$ is continuous for all $x \neq 1$

b) $a + b = 2$

c) $a = -3, b = 5$

6. a) $x \neq \pm 2$

b) $x = 2, x = -2, y = 0$

c) $f'(x) = \frac{-2x^2 + 10x - 8}{(x^2 - 4)^2}$

d) $y = -\frac{1}{2}x + \frac{5}{4}$