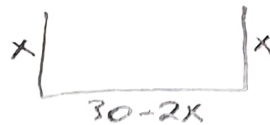
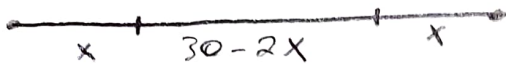


3.1
64



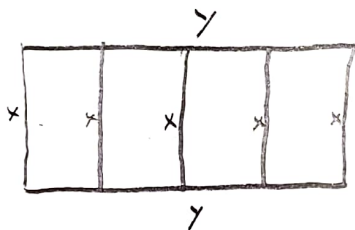
(a) Area $A(x) = x(30-2x) = -2x^2 + 30x$

(b) Area maximized at $h = \frac{-b}{2a} = \frac{-30}{2(-2)} = 7.5$ inches

(c) Max area = $A(7.5) = -2(7.5)^2 + 30(7.5) = 112.5$ inches²

Focus

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Area = xy

$$5x + 2y = 750$$

$$2y = 750 - 5x$$

$$y = 375 - \frac{5}{2}x$$

(a) $A(x) = x(375 - \frac{5}{2}x)$

$$A(x) = -\frac{5}{2}x^2 + 375x$$

(b) Area maximized at $h = \frac{-b}{2a} = \frac{-375}{2(-\frac{5}{2})} = 75$ feet

(c) Max area = $A(75) = 14,062.5$ feet²