

$$\begin{aligned}
 R(x) &= x \cdot (45 - 0.0125x) \\
 &= 45x - 0.0125x^2 \\
 x &= \frac{-45}{2 \cdot (-0.0125)} = \boxed{1800}
 \end{aligned}$$

(24) Vertex: $(-4, 7)$ $y = a(x - (-4))^2 + 7$
 $a(x - h)^2 + k$ $y = a(x + 4)^2 + 7$
 $(0, 0)$ belongs to parabola $0 = a \cdot 4^2 + 7$
 $y = -\frac{7}{16}(x + 4)^2 + 7$ $0 = 16a + 7$
 point: $(-\frac{7}{2}, 3)$ $a = -\frac{7}{16}$

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